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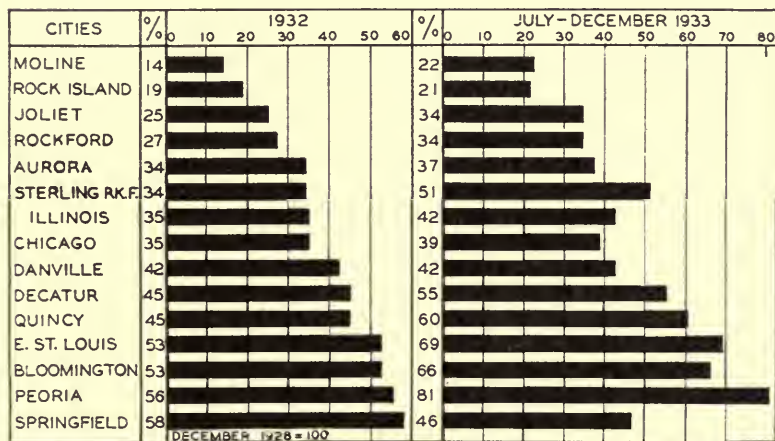
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Prices and Consumption of Milk in Specific Cities

As Related to Industrial Payrolls
and Other Economic Factors

By R. W. BARTLETT



FACTORY PAYROLLS IN FOURTEEN ILLINOIS CITIES
IN 1932 AND LAST HALF OF 1933

Drastic reductions in consumer purchasing power are the major causes for milk strikes during periods of declining prices. Both producers and distributors find difficulty in adjusting to the new situation. Milk strikes took place in Rock Island, Moline, Joliet, and Rockford in 1932, when factory payrolls in those cities were relatively the lowest in the state.

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Prices and Consumption of Milk in Specific Cities As Related to Industrial Payrolls and Other Economic Factors

By R. W. BARTLETT, First Assistant in Agricultural Economics

ALMOST all city markets have experienced serious problems in marketing milk during the three and one-half years of falling prices from 1929 to 1933. The direct cause for the difficulties encountered has been the drastic decline in consumers' purchasing power which occurred coincidently with falling prices. By 1932 factory payrolls in United States had fallen to 44 percent of those for 1925-1927, and in Illinois, to 34 percent of those in the previous period. The extent of the decline in consumers' incomes has varied widely in different cities.

Dissatisfaction among milk producers in Illinois markets during the latter part of 1932 and the early part of 1933 was manifested by milk strikes or disturbances in Rock Island, Moline, Joliet, and Rockford. Factory payrolls in these four cities in 1932 were the lowest in the state (cover). The greater the severity of the decline in consumer purchasing power in a given city, the more difficult it is for producers and dealers to adjust themselves to the new situation.

The greatest dissatisfaction among milk producers, however, is evidenced during a period of rapidly rising prices. From March to August, 1933, wholesale milk prices in the United States increased 14 percent, farm prices for dairy products increased 20 percent, and farm prices for grain, 125 percent. In March, 1933, the wholesale price of 100 pounds of milk in Illinois would buy 213 pounds of an Illinois dairy ration (Fig. 1 and Table 1). In August it would buy only 131 pounds of this ration, or about two-thirds as much as in March. The underlying cause for the milk strikes which occurred in Connecticut, Pennsylvania, New York, and Illinois from June to August, 1933, was the increasing difficulty which dairymen in these areas experienced in meeting expenses with the money received from milk. Feed prices during this period increased much faster than milk prices.

A like situation existed in 1916 and 1917, when milk strikes took place in nearly every large city market in the country, including New York, Chicago, Philadelphia, Boston, St. Louis, Pittsburgh, and other milk markets. *Feed prices are speculative, while milk prices are directly dependent upon incomes which consumers are receiving currently.* When the general price-level is rising rapidly, feed prices normally increase more than twice as rapidly as factory payrolls. Such

a maladjustment makes it impossible to sustain sales of milk and at the same time to increase milk prices as rapidly as feed costs increase.

The present investigation was undertaken with the two-fold aim of analyzing: (1) changes and causes for changes in consumer incomes, since demand for milk and its products in each locality is so directly dependent upon the amount of money available to buy these products; and (2) the effects of changes in population, of milk and cream prices, consumer incomes, and the use of food substitutes upon the consumption of milk and cream.

Analyses of the factors that influence the demand for milk might be made from the viewpoint of producers, of distributors, or of consumers. In this study analysis of each market policy relating to demand has been made from the viewpoint of the consumer, for policies which are to the best interests of consumers it is believed will, in the long run, be most profitable both to producers and to distributors.

In studying differences in the behavior of different milk markets, numerous questions arise, such as: What are some of the reasons for the wide differences in the per-capita consumption in the different markets? Why, for example, was the decline from 1929 to 1932 in consumption of both milk and cream so much greater in Philadelphia than in Boston or New York, and why is the per-capita consumption of milk and cream in both Boston and New York so much higher than that for Philadelphia? Also, how can the per-capita consumption of milk be increased? Answers to these questions may be useful in formulating policies for fluid-milk markets.

Methods of milk production and milk distribution, as related to marketing policies, are subjects for another study.

Detailed tables in this study not essential to the text are shown in the Appendix.

INDUSTRIAL PAYROLLS AND EXPENDITURES FOR DAIRY PRODUCTS

Butter is generally recognized by leaders in the dairy industry as the foundation of the price structure for milk and for products other than butter. When the fluid-milk industry has a surplus, it can always be made into butter. When shortages of milk occur, milk or cream which would otherwise have been manufactured into butter can be diverted to the fluid-milk market. Hence when a major economic change occurs which causes a corresponding change in butter expenditures this force is soon reflected in all parts of the dairy industry. The intensity of this force, however, varies considerably, depending upon the change in consumers' incomes in a given market as compared with that for the United States. For example, if in a given market payrolls have fallen far more than the average for the country, this

TABLE 1.—POUNDS OF ILLINOIS DAIRY RATION THAT 100 POUNDS OF MILK WOULD BUY EACH MONTH DURING 1929-1933¹

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1929..	140.0	142.6	144.4	151.3	152.3	153.0	132.1	136.5	135.3	136.1	150.5	150.5	143.3
1930..	150.3	149.2	156.9	133.4	143.1	149.3	161.8	138.8	153.4	174.8	189.5	183.7	155.4
1931..	172.7	170.6	168.7	159.8	182.2	196.9	203.9	225.2	250.7	269.6	218.2	225.8	198.8
1932..	211.9	215.9	207.7	205.2	223.4	230.8	241.1	233.4	237.2	263.7	265.8	248.9	228.2
1933..	246.7	224.9	212.8	178.0	153.5	163.0	117.7	131.0	139.0	161.0	.....	.....	.....

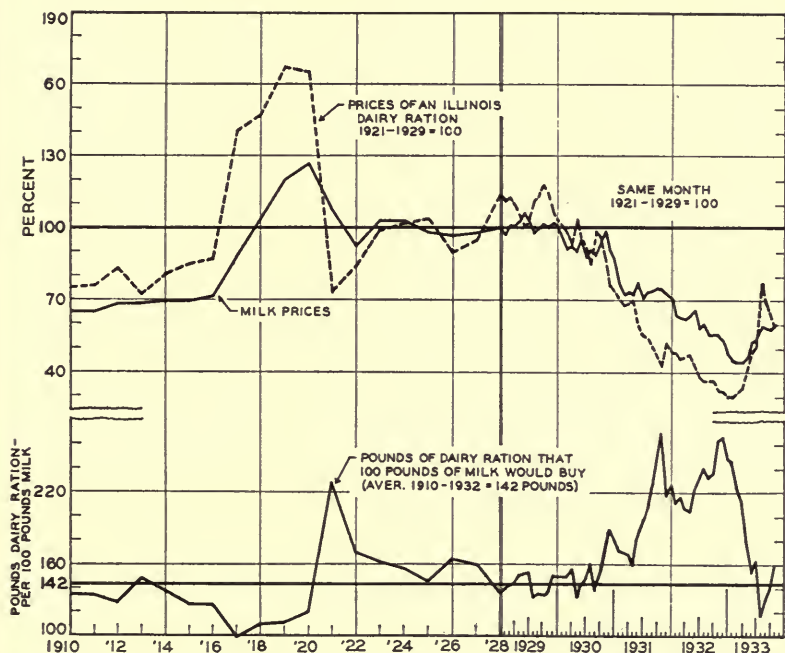
¹See Appendix, Tables 39 and 41.

FIG. 1.—RELATIVE WHOLESALE PRICES OF MILK IN ILLINOIS FROM 1910 TO 1933, PRICES OF AN ILLINOIS DAIRY RATION, AND POUNDS OF DAIRY RATION THAT 100 POUNDS OF MILK WOULD BUY

Milk strikes are most prevalent when the general level of prices is rising rapidly. Thus from June to August, 1933, strikes occurred in Connecticut, Pennsylvania, New York, and Illinois. When a similar price situation existed in 1916 and 1917, strikes took place in New York, Chicago, Philadelphia, Boston, St. Louis, Pittsburgh, and other markets.

difference tends to force either greater price reductions or to cause greater losses in sales of milk and its products than are experienced in the country as a whole.

Consumers' expenditures for butter during the fourteen-year period 1920-1933 have been shown by L. H. Bean¹ to have gone thru practically the same changes as the indexes of industrial payrolls² (Fig. 2). In 1929 both expenditures for butter and industrial payrolls were slightly over 50 percent higher than they were in 1922. In 1932

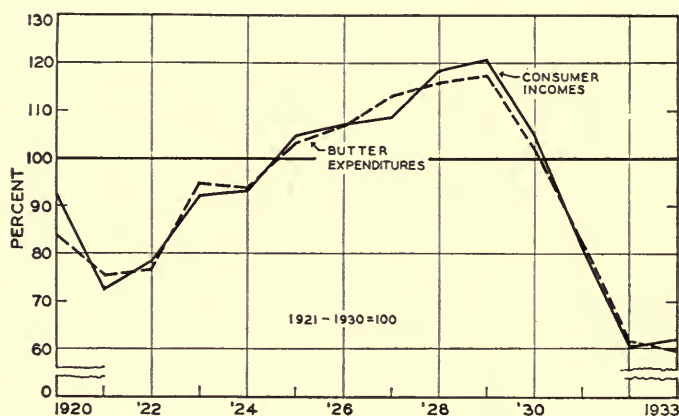


FIG. 2.—INCOME OF NONAGRICULTURAL CONSUMERS AND RETAIL EXPENDITURES FOR BUTTER IN THE UNITED STATES FROM 1920 TO 1933

The total amount of money that nonagricultural consumers have spent for butter during the past fourteen years has been directly dependent on the incomes of these consumers. Since butter is the price-maker for a large share of milk, cream, and other dairy products sold, it is easy to understand the vital significance that changes in incomes of consumers have on the economic welfare of dairymen and those handling dairy products. (Graph after L. H. Bean in *The Agricultural Situation*, February, 1933.)

payrolls and retail expenditures for butter had declined to only slightly more than half those for 1929. In 1933 these indexes declined about 3 percent below those for 1932.

Since butter is the price-maker for a large proportion of milk, cream, and other dairy products sold, the above relationship indicates the vital significance which changes in industrial payrolls have upon the economic welfare of dairymen in this country. Distributors of dairy products also are vitally affected by changes in industrial incomes. Between 25 and 30 percent of what consumers pay for butter goes for costs of marketing the product. For milk, cream, and manufactured products other than butter, the services of distribution absorb a higher share of what consumers pay than in the case of butter.

¹The *Agricultural Situation*, Vol. 17, No. 2. U. S. Department of Agriculture. February, 1933.

²Industrial payrolls included factory payrolls, railroad payrolls, and construction contracts awarded.

RECENT COURSE OF INDUSTRIAL PAYROLLS AND PRODUCTION

Changes in Industrial Payrolls as Related to Type of Goods Produced

Industrial payrolls fluctuate far more in some cities than in others. Industrial payrolls in selected cities and in the United States for 1932, March, 1933, the month when payrolls in the United States were the lowest ever officially recorded, and August and October, 1933, are shown in Table 2.

TABLE 2.—INDEXES OF FACTORY PAYROLLS IN SELECTED CITIES IN THE UNITED STATES IN 1932 AND IN MARCH, AUGUST, AND OCTOBER, 1933¹
(1925-1927 = 100)

City	1932	1933		
		March	August	October
New York.....	46	44	52	57
Chicago.....	34	26	40	39
Philadelphia.....	52	42	55	62
Baltimore.....	41	32	50	53
Pittsburgh.....	26	20	52	48
Milwaukee.....	37	28	52	53
United States.....	44	36	55	56

¹Based upon data from the U. S. Bureau of Labor Statistics in the respective states for cities included and from the Federal Reserve Board. Industrial payrolls as shown here do not include railroad payrolls or building contracts awarded. From 1921 to 1929, indexes including factory payrolls, railroad payrolls, and building contracts awarded in the United States averaged 3.4 percent lower than indexes of factory payrolls.

The principal cause for the wide differences in payroll fluctuations in these cities can be traced directly to differences in the major kinds of goods produced in them, some producing mainly consumption goods and others mainly durable goods. *Consumption* goods are products in general use that are quickly consumed or worn out and replaced, such as food, clothing, tobacco, gasoline, and articles made of leather, paper, rubber, and textiles. *Durable* goods include bridges and locomotives, freight cars and automobiles, machinery and furniture, buildings, ships, and other products made of such materials as iron, steel, cement, glass, and lumber.¹

The per-capita output of consumption and durable goods in the United States since 1899 is shown in Fig. 3 and Table 3. These data include the major part of the output of goods produced each year in this country by agriculture, forestry, manufacturing, and mining. The output of consumption goods declined from an index of 103 in 1929

¹This classification was published by Leonard P. Ayres in the Cleveland Trust Company Business Bulletin, Vol. 13, No. 11, November 15, 1932.

to an index of 83 in 1932, a net decline of 19 percent. The output of durable goods declined from an index of 111 in 1929 to an index of 35 in 1932, a net decline of 68 percent. Thus in a period when the output of durable goods declined more than two-thirds, the output of consumption goods declined less than one-fifth.

In 1929 there were about 4.5 million workers in six groups of factory employees making durable goods and 3.6 millions of workers in six groups of consumption-goods industries.¹ By March, 1933, the

TABLE 3.—INDEXES OF THE PER-CAPITA PRODUCTION OF DURABLE AND CONSUMPTION GOODS IN THE UNITED STATES, 1899-1932¹
(1923-1925 = 100)

Year	Con- sump- tion goods ²	Durable goods ³	Percent of total goods		Year	Con- sump- tion goods ²	Durable goods ³	Percent of total goods	
			Con- sump- tion goods	Durable goods				Con- sump- tion goods	Durable goods
1899.....	80.4	51.9	75.3	24.7	1916.....	91.8	103.2	63.6	36.4
1900.....	78.9	50.8	75.3	24.7	1917.....	95.5	103.0	64.6	35.4
1901.....	75.7	55.9	72.7	27.3	1918.....	95.1	103.8	64.3	35.7
1902.....	85.9	61.3	73.4	26.6	1919.....	91.5	89.0	66.9	33.1
1903.....	82.9	60.2	73.0	27.0	1920.....	93.2	98.4	65.0	35.0
1904.....	86.2	57.8	74.6	25.4	1921.....	85.5	59.1	74.0	26.0
1905.....	89.3	68.8	71.8	28.2	1922.....	93.0	82.8	69.2	30.8
1906.....	90.7	74.2	70.6	29.4	1923.....	100.3	104.3	65.4	34.6
1907.....	85.0	76.3	68.6	31.4	1924.....	99.6	92.5	67.9	32.1
1908.....	85.2	59.1	73.9	26.1	1925.....	100.3	103.0	65.7	34.3
1909.....	87.1	75.5	69.4	30.6	1926.....	102.9	106.7	65.4	34.6
1910.....	87.1	78.2	68.6	31.4	1927.....	101.6	96.5	67.4	32.6
1911.....	82.8	72.0	69.3	30.7	1928.....	102.9	103.2	66.2	33.8
1912.....	94.0	82.8	69.0	31.0	1929.....	103.4	111.0	64.7	35.3
1913.....	87.1	84.4	67.0	33.0	1930.....	95.6	82.0	69.6	30.4
1914.....	92.1	71.2	71.7	28.3	1931.....	94.3	55.4	77.0	23.0
1915.....	96.6	82.5	69.7	30.3	1932.....	83.4	35.0	82.4	17.6
					Average 1899 to 1932.....				

21 percent; cement, 19 percent; and lumber, 16 percent. Payrolls in the durable-goods industries declined even more proportionately during this period than did production or the number of workers in these industries.

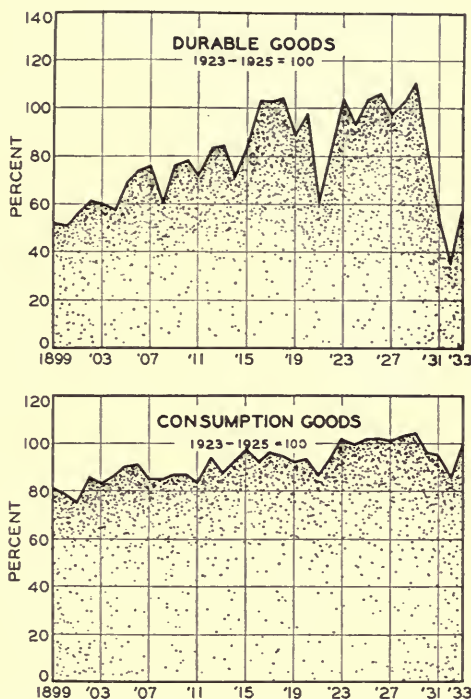


FIG. 3.—PER-CAPITA PRODUCTION OF DURABLE AND CONSUMPTION GOODS IN THE UNITED STATES FROM 1899 TO 1933

From 1929 to 1932 the output of consumption goods in the United States declined 19 percent; the output of durable goods declined 68 percent. Expressed otherwise, the durable-goods output declined more than two-thirds in the same period when the consumption-goods output declined less than one-fifth. The wide differences in factory payroll fluctuations in different cities can be traced mainly to differences in the character of the goods manufactured. A continued increase in the durable-goods industries will be necessary to relieve the unemployment situation.

Payrolls for March, 1933, in New York and Philadelphia were higher than those in other cities primarily because a greater proportion of their factory employees produce consumption goods (Table 2). March payrolls in Chicago and Pittsburgh were relatively low because of the collapse of industries manufacturing iron and steel products in those cities. During the period of business recovery in the summer

of 1933 payrolls in Chicago and Pittsburgh increased much more rapidly than did those in New York and Philadelphia.

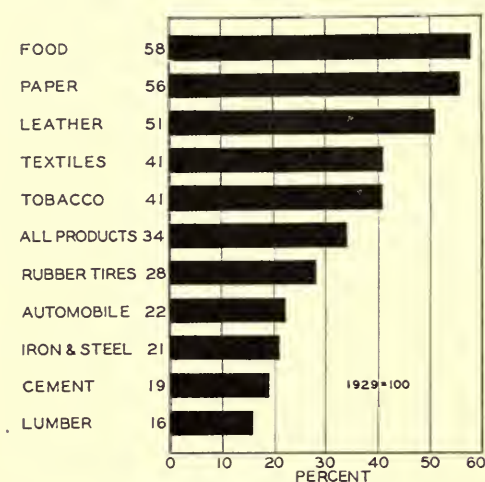


FIG. 4.—PAYROLLS IN SPECIFIC INDUSTRIAL MANUFACTURES IN THE UNITED STATES IN MARCH, 1933

By March, 1933, manufacturing payrolls had declined to 34 percent of those for 1929. Payrolls in the foods, paper, textiles, and tobacco groups declined least, while those in the lumber, cement, iron and steel, and automobile groups declined most.

TABLE 4.—INDEXES OF PAYROLLS OF ALL REPORTING INDUSTRIES IN ILLINOIS AND OF MANUFACTURING INDUSTRIES IN ILLINOIS AND IN THE UNITED STATES, 1923-1933
(1925-1927 = 100)

Year	Illinois		United States
	All reporting industries ¹	Manufacturing industries ¹	Manufacturing industries ²
1923.....	102.7	105.6	101.0
1924.....	96.6	95.3	93.4
1925.....	98.4	97.9	98.5
1926.....	104.4	104.2	101.8
1927.....	97.3	98.0	99.6
1928.....	96.2	95.2	99.4
1929.....	100.5	101.3	105.2
1930.....	82.8	77.6	85.4
1931.....	63.8	53.8	64.4
1932.....	43.8	34.3	44.2
1933.....	43.0	36.1	46.3

¹Data for 1923 to 1932 from the *Labor Bulletin*, Illinois Department of Labor, January, 1933, p. 142. The average payrolls for 1933 were tabulated from monthly releases in 1933 of the Illinois Division of Labor Statistics. ²Based upon data as reported monthly by the Federal Reserve Board. To convert from a 1923-1925 base to a 1925-1927 base multiply by .97656.

Proportion of Illinois Wage Earners Employed in Consumption- and Durable-Goods Industries

About 60 percent of the people employed in Illinois manufacturing industries in 1927 were employed in the production of durable goods. The metals industries employed 234,354 wage earners, or nearly three-fourths of the total number of workers producing durable goods (Fig. 5 and Table 5). Industries engaged in the manufacture of wood products employed 44,787 wage earners, the stone, glass, and clay industries employed 25,223 wage earners, and the chemical, oils, and paint industries employed 23,071 wage earners.

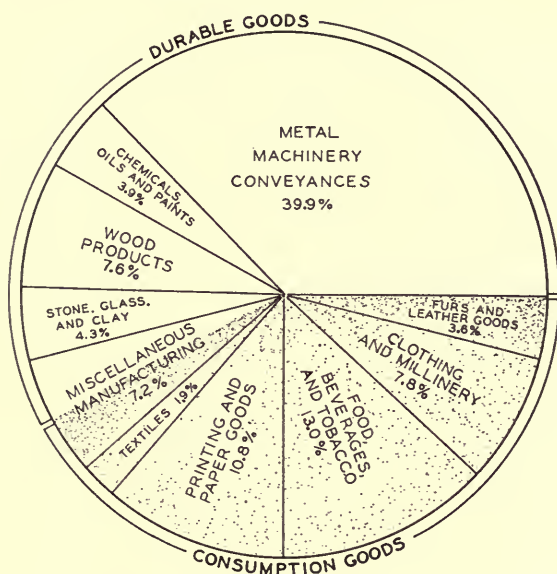


FIG. 5.—DISTRIBUTION OF WAGE EARNERS IN ILLINOIS BY INDUSTRIES, 1927

About three-fifths of the 587,094 wage earners in the manufacturing industries in Illinois in 1927 were employed in durable-goods industries; two-fifths were employed in consumption-goods industries. The metals industries formed the largest single group of wage earners, employing about two-fifths of the total number.

The remaining 40 percent of the workers in the manufacturing industries in Illinois produced consumption goods. The food-products industries in 1927 employed 76,248 wage earners, or over one-third of the total number of this group. Industries manufacturing paper and printing goods employed 63,561 wage earners; the clothing and millinery industries, 45,726; the furs and leather goods industries, 21,170; and the textile industries employed 11,312 wage earners. Unclassified industries in Illinois employed 41,642 wage earners in 1927.

About 55 percent of the factory employees in the United States are normally employed in the durable-goods industries, as compared with 60 percent for Illinois. Partly because of this fact reductions in factory payrolls in Illinois from 1929 to 1933 were greater relatively than those for the United States. By March, 1933, payrolls in the

TABLE 5.—DISTRIBUTION OF WAGE EARNERS IN MANUFACTURING INDUSTRIES IN ILLINOIS, 1927¹

Group	Number	Percentage of total
1. Metals, machinery, conveyances, total.....	234 354	39.9
Iron and steel.....	82 432	...
Electrical apparatus.....	41 329	...
Agricultural implements.....	19 225	...
Cooking and heating apparatus.....	18 675	...
Cars and locomotives.....	16 348	...
Brass, copper, zinc, and others.....	16 247	...
Sheet metal work and hardware.....	15 432	...
Automobiles and accessories.....	6 549	...
Instruments and appliances.....	6 546	...
Machinery.....	5 654	...
Tools and cutlery.....	3 526	...
All others.....	2 391	...
2. Food, beverages, tobacco, total.....	76 248	13.0
Meat packing.....	31 596	...
Bread and other bakery products.....	15 097	...
Confectionery.....	8 673	...
Flour, feed, and cereals.....	6 814	...
Fruit and vegetable canning.....	3 612	...
Miscellaneous groceries.....	3 192	...
Dairy products.....	3 044	...
All others.....	4 220	...
3. Printing and paper goods, total.....	63 561	10.8
Job printing.....	29 180	...
Newspapers and periodicals.....	10 679	...
Paper boxes, bags, and tubes.....	7 646	...
All others.....	16 056	...
4. Clothing and millinery.....	45 726	7.8
5. Wood products.....	44 787	7.6
6. Stone, glass, clay.....	25 223	4.3
7. Chemicals, oils, paints.....	23 071	3.9
8. Furs and leather goods.....	21 170	3.6
9. Textiles.....	11 312	1.9
10. Miscellaneous industries.....	41 642	7.2
All manufacturing industries.....	587 094	100.0

¹Data from U. S. Census of Manufactures, 1927. Published in *Labor Bulletin*, Illinois Department of Labor, October, 1932, p. 71, Table 1.

United States had declined to 36 percent of those for 1925-1927. Illinois payrolls in March were 27 percent of this base period, or one-fourth lower than those for the United States.

A long-time revival of the durable-goods industries accompanying business recovery will improve payrolls in Illinois faster than payrolls in areas where the manufacture of consumption goods constitutes a greater proportion of the industries.

Importance of Different Types of Industries in Specific Illinois Cities

In Sterling-Rock Falls, Moline, Joliet, Aurora, and Rock Island the payrolls of the metals industries in September, 1929, constituted more than three-fourths of the total payrolls of all manufacturing industries¹ (Fig. 6 and Table 6). In Peoria, Rockford, Decatur, Quincy, and Springfield the payrolls of the metals industries constituted between 60 and 75 percent of the total manufacturing industries payrolls. In Chicago about half the payrolls reported for September, 1929, originated in the metals industries.

TABLE 6.—DISTRIBUTION OF MANUFACTURING INDUSTRIES IN ILLINOIS AS
MEASURED BY FACTORY PAYROLLS, SEPTEMBER, 1929¹

Industry	State	Aurora	Bloom- ington	Chicago	Danville	Decatur	E. St. Louis	Joliet
Stone, glass, and clay.....	4.5	....	.5	1.9	34.6	....	10.7	9.0
Metals, machinery, convey- ances.....	52.6	79.8	57.3	47.9	33.1	61.9	12.0	80.4
Wood products.....	4.3	....	....	3.8	1.0	2.7	2.0	.9
Furs and leather goods.....	4.0	....	....	2.5	....	....	....	....
Chemicals, oils, and paints.....	4.6	4.4	....	3.2	....	....	17.8	5.5
Printing and paper goods.....	9.5	2.5	10.7	13.4	10.2	....	11.4	1.6
Textiles.....	1.4	7.5	....	1.6	....	....	....	....
Clothing and millinery.....	4.7	3.7	.7	7.1	13.9	4.0	....	1.3
Food, beverages, tobacco.....	14.4	2.1	30.8	18.3	7.2	31.4	46.1	1.3
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Industry	Moline	Peoria	Quincy	Rock- ford	Rock Island	Spring- field	Sterling- Rock Falls	All Others
Stone, glass, and clay.....	.2	1.7	1.5	....	....	....	....	12.2
Metals, machinery, convey- ances.....	87.2	73.9	62.4	72.9	78.3	60.5	96.4	53.0
Wood products.....	5.4	3.7	....	16.6	7.5	3.9	.5	3.7
Furs and leather goods.....	....	....	10.4	1.8	....	22.4	....	9.2
Chemicals, oils, and paints.....	....	2.0	....	....	....	....	....	9.7
Printing and paper goods.....	5.2	7.2	14.9	3.9	....	10.9	1.3	2.5
Textiles.....	....	1.4	....	3.3	14.2	1.7	....	.7
Clothing and millinery.....	....	....	5.0	1.0	....	....	....	.7
Food, beverages, tobacco.....	2.0	10.1	5.8	.5	....	.6	1.8	8.3
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

¹Calculated from payroll data obtained thru the courtesy of Illinois Department of Labor, Division of Labor Statistics.

In East St. Louis the foods group ranged first among the different industries in amount of payrolls, and in Chicago this group ranked second. The foods group was among the three leading industries in Bloomington, Decatur, Peoria, and Sterling-Rock Falls.

¹The Division of Labor Statistics of the Illinois Department of Labor, which compiles these payrolls, attempts to get an average representation of each industrial group. In some cases, however, it has not been possible to do this. Hence the proportional distribution of payrolls by industrial groups should be considered an approximation rather than an exact cross-section of existing conditions.

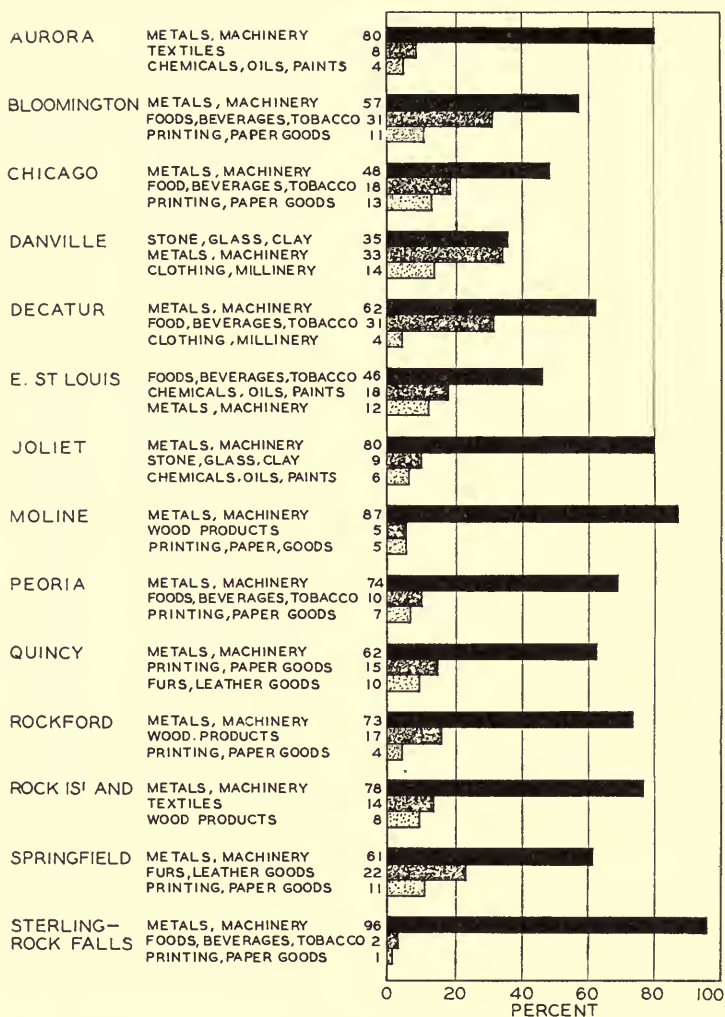


FIG. 6.—THE THREE PRINCIPAL MANUFACTURING INDUSTRIES IN FOURTEEN ILLINOIS CITIES IN SEPTEMBER, 1929, AS MEASURED BY AMOUNT OF PAYROLLS REPORTED

The most important industries in Illinois are those manufacturing metal goods and machinery. In 1929, this group ranked highest in twelve out of fourteen cities.

The printing and paper-goods group was among the three principal industries in Chicago, Bloomington, Springfield, Quincy, Peoria, Moline, Rockford, and Sterling-Rock Falls, as measured by payrolls.

In Danville the stone, glass, and clay industries were the most im-

portant, as measured by payrolls. The chemicals industries ranked second in East St. Louis. Rock Island is the only one of the selected Illinois cities in which the textiles group ranks among the three most important industries. In Rockford the furniture and other wood products industries are an important source of payrolls.

Changes in Industrial Payrolls in Illinois and in Specific Illinois Cities¹

Industrial payrolls in Illinois are classified by the Illinois Department of Labor as "payrolls for all reporting industries," and "payrolls for manufacturing industries." Payrolls in industries other than the manufacturing group include those for wholesale and retail trade, eating and cleaning establishments, public utilities, coal mining, and building and contracting.

Payrolls for all industries from 1923 to 1929 showed practically the same changes as those for manufacturing industries (Fig. 7 and Table 4). From 1930 to 1933, however, payrolls for all industries were somewhat higher than those for manufacturing industries. During this period payrolls in the wholesale and retail trade and in public utilities were higher, while payrolls from coal mining and building construction were lower, than factory payrolls. Payrolls in all industries have been higher than factory payrolls primarily because a greater number of workers have been employed in trade and public utilities than have been employed in coal mining and construction.

Indexes of payrolls for selected Illinois industries for 1932 and for March, August, and October, 1933, are shown in Table 7.

Since March, 1933, greater increases have occurred in manufacturing payrolls than in payrolls for all industries. The increase in trade payrolls was less than that for factory payrolls, while public-utility payrolls were lower in October than in March, 1933.

The following discussion of changes in consumer incomes in

¹Each month the Illinois Department of Labor publishes a mimeographed report showing the percentage change in employment and payrolls for the principal cities in the state. To bring to date currently the payroll indexes for any city included in Table 9, multiply the percentage change in payrolls for the current month for that city by the index for the previous month. The figure obtained plus the index of the previous month from which this was calculated is the index for the current month. For example, in July, 1933, the index of Aurora payrolls was 32.6 percent of that for December, 1928. The August report of the Illinois Department of Labor showed an increase of 22.7 percent for payrolls in the manufacturing industries in Aurora over those for July. The August index is then calculated as follows: $32.6 \times 22.7\% = 7.40$. $32.6 + 7.4 = 40.0$, the August index. Usually it is preferable to carry the index to two decimal places in order to prevent an error in future calculations. For convenience, however, the payroll indexes shown in this study have been carried only to one decimal, altho they were carried to two places on the original work sheets.

selected Illinois cities is based on factory payrolls since payrolls of all industries in these cities have been reported only for recent months.

Factory payrolls in those Illinois cities that produce a higher proportion of consumption goods declined less from 1929 to 1932 than payrolls for the state as a whole, for taken as a whole Illinois industries are engaged principally in producing durable goods. (Fig. 8 and Table 8). By 1932 Illinois factory payrolls had declined to 35 percent of those for December, 1928. Seven cities, including Bloomington, Springfield, Peoria, East St. Louis, Quincy, Decatur,

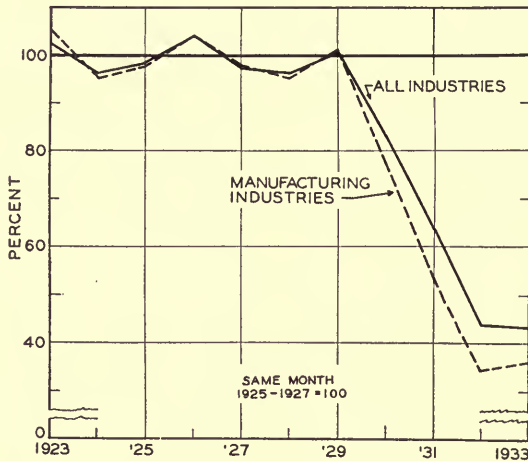


FIG. 7.—COMPARISON OF INDUSTRIAL PAYROLLS FOR ALL REPORTING INDUSTRIES IN ILLINOIS AND FOR MANUFACTURING INDUSTRIES, 1923 TO 1933

The combined payrolls for all industries in Illinois have declined somewhat less than payrolls in the manufacturing industries since 1929 because included in "all payrolls" are those of such industries as public utilities, retail and wholesale trade, and service groups, whose payrolls declined less than those in the manufacturing industries.

TABLE 7.—INDEXES OF INDUSTRIAL PAYROLLS FOR SELECTED ILLINOIS INDUSTRIES IN 1932 AND IN SELECTED MONTHS IN 1933¹
(1925-1927 = 100)

Industry	1932	1933		
		March	August	October
All industries.....	43.8	36.4	48.4	49.6
Manufacturing industries.....	34.3	27.2	42.6	43.0
Wholesale and retail trades.....	48.9	39.9	49.4	50.6
Public utilities.....	80.0	72.2	71.5	73.7
Coal mining.....	19.7	25.5	24.0	31.9
Building and contracting.....	11.9	7.2	13.4	15.1

¹From monthly reports of Illinois Department of Labor.

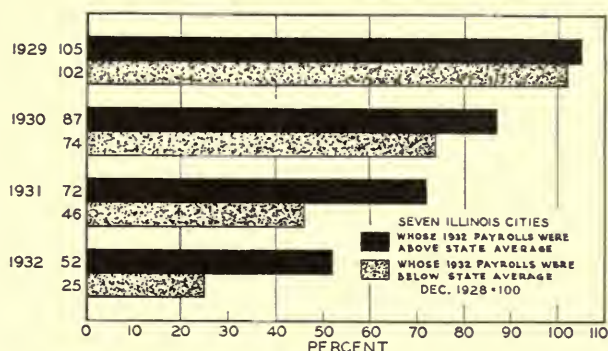


FIG. 8.—FACTORY PAYROLLS OF TWO GROUPS OF ILLINOIS CITIES, 1929-1932

Wage earners in seven Illinois cities whose payrolls in 1932 were above the state average received 32.5 percent of their incomes in 1929 from the consumption-goods industries. Wage earners in seven other cities in the state whose 1932 payrolls were below the state average received only 8.7 percent of their incomes in 1929 from the consumption-goods industries. The cities whose industrial payrolls were very low in 1932 will be the first to improve with a long-time revival of the durable-goods industries.

TABLE 8.—INDEXES OF FACTORY PAYROLLS FOR SELECTED ILLINOIS CITIES, 1929 TO 1932, AND PROPORTIONS THAT PAYROLLS IN INDUSTRIES MANUFACTURING CONSUMPTION GOODS WERE OF TOTAL FACTORY PAYROLLS IN 1929

City	Proportion payrolls in consumption-goods industries were of total payrolls, 1929 ¹	Factory payrolls ¹ (December 1928 = 100)			
		1929	1930	1931	1932
Cities with 1932 payrolls <i>above</i> state average					
	<i>perct.</i>				
Bloomington.....	42	115.6	82.5	70.8	53.4
Danville.....	31	87.7	66.5	60.2	41.7
Decatur.....	35	97.5	76.4	66.7	44.7
E. St. Louis.....	58	101.3	90.0	70.9	53.4
Peoria.....	19	111.9	97.4	71.4	55.5
Quincy.....	36	106.4	83.0	64.4	45.0
Springfield.....	36	101.6	85.9	98.0	57.5
Weighted average.....	32.5	104.5	87.0	71.8	51.5
Cities with 1932 payrolls <i>under</i> state average					
Aurora.....	16	105.1	70.8	50.3	33.6
Joliet.....	4	106.7	84.3	54.2	25.2
Moline.....	7	97.4	67.8	29.9	13.5
Rockford.....	10	101.5	69.5	45.7	27.2
Rock Island.....	14	99.7	70.6	33.9	19.1
Sterling-Rock Falls.....	3	97.4	79.4	54.9	34.0
Weighted average.....	8.7	102.2	73.6	45.9	25.3

¹See Table 9.

and Danville, each had factory payrolls in 1932 that were higher than the average for the state. Averaged together, payrolls in these cities in 1932 were 51.5 percent as high as in December, 1928.¹ By 1932 factory payrolls in Chicago had declined to practically the same level as those for the state as a whole. In Sterling-Rock Falls, Aurora, Rockford, Joliet, Rock Island, and Moline, 1932 factory payrolls had declined to 25.3 percent of those for December, 1928; thus the 1932 index for these cities was about one-third lower than the average for the state.

In the seven cities whose factory payrolls in 1932 were higher than the state average, the payrolls of those industries producing consumption goods averaged 32.5 percent² of total payrolls reported during a more normal month, September, 1929. In the cities whose 1932 factory payrolls were less than the state average, payrolls in the consumption-goods industries in September, 1929, averaged only 8.7 percent of the total payrolls reported, or approximately one-fourth of the average for cities in the higher payrolls group.

These data are further shown in Fig. 9.

Aurora. From 1929 to 1932 factory payrolls in Aurora declined rapidly. In 1932 they averaged 33.6 percent, or one-third of those for December, 1928 (Fig. 10 and Table 9). They reached a peak of 123.2 percent in May, 1929. During the latter part of 1929 and during 1930 they declined precipitously until in January, 1931, they were 45 percent, or only slightly more than one-third of those of May, 1929. Except for a slight upward movement in the early part of 1931 payrolls in this city declined quite steadily during 1931 and 1932. In December, 1932, they were 25.3 percent, or about one-fourth of those in December, 1928. In November, 1933, payrolls had increased to 34.4 percent of those for the base month.

Bloomington. In 1929 factory payrolls in Bloomington were 115.6 percent of those for December, 1928. In 1932 they had declined to 53.4 percent, or to slightly more than half those in 1929 (Fig. 10 and Table 9). Payrolls in this city are highly seasonal because of the summer and early fall operation of both a canning factory and a candy factory. In May, 1929, they reached a peak of 164.9 percent. By August, 1929, they had declined to 78.8 percent, or to less than half those for May. The course of payrolls for this city was downward from 1929 to 1932. In December, 1932, payrolls were 45.2 percent, or about two-fifths, of those of December, 1928. In November,

¹Illinois factory payrolls, as shown in Table 4 and Fig. 7, had as their base: 1925-1927 = 100. To convert these data to the base of December, 1928, multiply by 1.01833. December, 1928, was used as the base since it is the earliest date for which the figures for some of the cities are available. Data are not adjusted for seasonal variation.

²These averages were weighted according to the total payrolls of reporting industries included within each group, as of September, 1929.

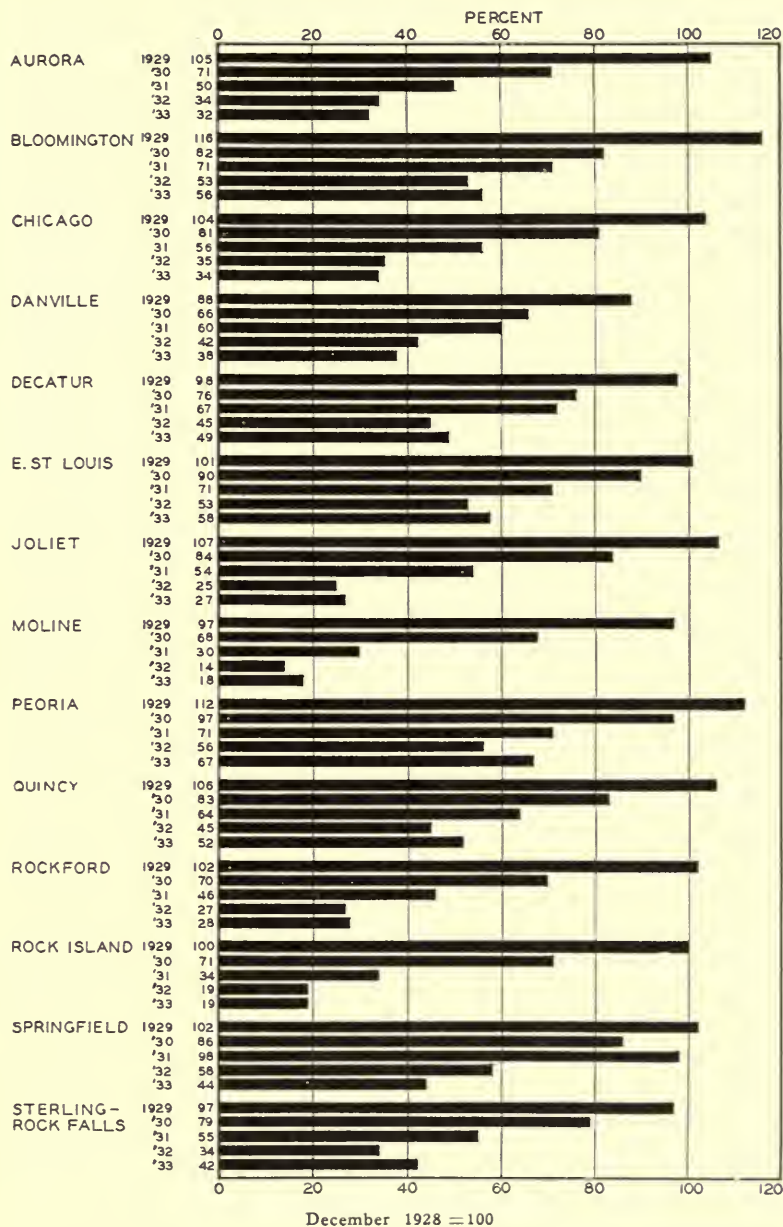


FIG. 9.—FACTORY PAYROLLS IN FOURTEEN ILLINOIS CITIES IN 1929-1933

New construction, combined with renovation of old buildings engaged in the manufacture of foods and beverages, caused Peoria payrolls to rank highest for Illinois cities in 1933.

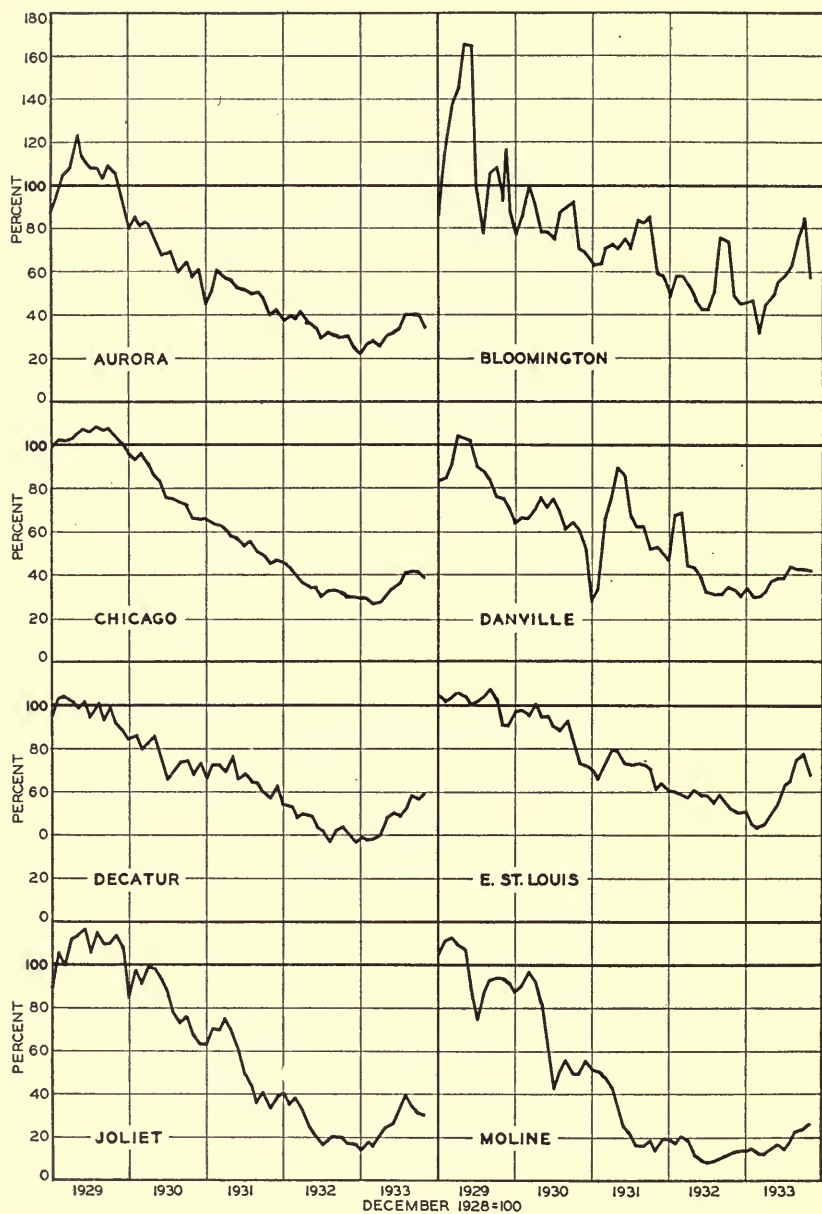
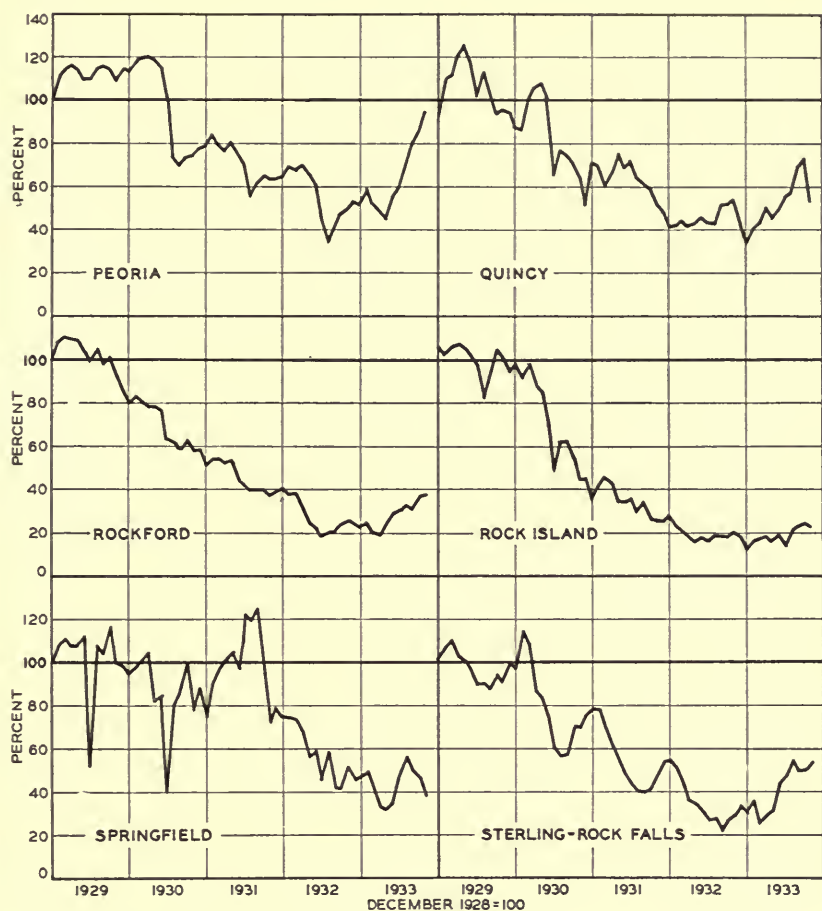


FIG. 10.—FACTORY PAYROLLS IN FOURTEEN ILLINOIS CITIES, BY MONTHS, 1929-1933

Improvement in economic conditions is indicated by the general upswing in factory payrolls in the majority of Illinois cities in 1933.

FIG. 10.—*Concluded*

1933, payrolls had increased to 58.1 percent of those for the base month.

Chicago. Factory payrolls in Chicago in 1929 averaged 104.3 percent of those for December, 1928 (Fig. 10 and Table 9). In 1932, they had declined to 35.1 percent, or to about one-third of those for 1929. Payrolls in this city reached a peak of 107.9 percent in August, 1929. From 1929 to 1932 the course of Chicago payrolls was steadily downward. In December, 1932, they were 29.1 percent, or slightly more than one-fourth, of those in December, 1928. In November, 1933, payrolls had increased to 38.6 percent of those for the base month.

Since Chicago is the largest city in Illinois, the course of its factory payrolls largely governs the course of payrolls for Illinois as a

whole. In 1932 Chicago payrolls were eighth from the highest, or at about the half-way point, of those for the Illinois cities included in this study.

Danville. Factory payrolls in Danville declined from an index of 87.7 in 1929 to 41.7 in 1932 (Fig. 10 and Table 9), or to less than half the 1929 index. Payrolls in this city reached a peak of 103.1 in May, 1929. During the latter part of 1929 and 1930 they declined precipitously, reaching a low point of 28 in January, 1931. This decline was followed by a marked increase in payrolls during the summer of 1931. Since that time the general course of payrolls has been downward. In December, 1932, payrolls in this city were 30.6 percent of those for December, 1928. In November, 1933, payrolls had increased to 41.8 percent of those for the base month.

Decatur. By 1932 factory payrolls in Decatur had declined to 44.7 percent, or to slightly more than two-fifths, of those for December, 1928 (Fig. 10 and Table 9). They reached a peak of 104.4 percent in March, 1929. From 1929 to 1932 they were declining; by December, 1932, dropping to 37.3 percent, or to about three-eighths, of those in December, 1928. In November, 1933, payrolls had increased to 58.4 percent of those for the base month.

East St. Louis. From an index of 101.3 in 1929 factory payrolls in East St. Louis declined to an index of 53.4 in 1932, or to about half that of three years previous (Fig. 10 and Table 9). Payrolls reached a peak of 106.1 percent in September, 1929. From 1929 to 1932 their course has been a rather steady downward one. In December, 1932, they were 49.6 percent, or half, of those in December, 1928. In November, 1933, they had increased to 67.4 percent of those for the base month.

Joliet. By 1932 factory payrolls in Joliet had declined to 25.2 percent, or to one-fourth, of those for December, 1928 (Fig. 10 and Table 9). They reached a peak of 115.7 percent in June, 1929. Excepting for a slight rise during the early part of the year, payrolls in this city declined rapidly up to March, 1933. In December, 1932, they were 17.5 percent, or about one-sixth, of those for December, 1928. In November, 1933, they had increased to 31.3 percent of those for the base month.

Moline. Factory payrolls in Moline declined from an index of 97.4 in 1929 to 13.5 in 1932, or to about one-seventh of the 1929 index (Fig. 10 and Table 9). They reached a peak of 111.9 percent in February, 1929. With the exception of a slight rise during the winter months each year, they declined very rapidly from 1929 to 1932. In December, 1932, they were 13.8 percent, or about one-seventh, of those in December, 1928. In November, 1933, they had increased to 25.8 percent of those for the base month.

TABLE 9.—INDEXES OF FACTORY PAYROLLS IN 14 ILLINOIS CITIES,
1929 TO 1933¹
(December 1928 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
Aurora													
1929.....	86.5	95.3	106.4	109.1	123.2	114.3	107.3	108.6	103.4	109.2	105.8	92.5	105.1
1930.....	79.1	84.5	81.7	83.2	75.8	68.1	67.8	67.5	59.3	65.1	57.9	60.9	70.8
1931.....	45.0	51.0	59.8	58.3	56.6	52.6	50.7	49.3	50.2	48.1	40.7	41.2	50.3
1932.....	37.4	39.3	38.4	41.2	36.9	33.5	29.0	30.6	30.8	29.6	30.8	25.3	33.6
1933.....	22.4	26.5	27.0	25.5	29.1	31.3	32.6	40.0	39.6	39.7	34.4	....	....
Bloomington													
1929.....	87.9	115.3	136.9	146.2	164.9	164.7	98.7	78.8	104.9	107.8	92.9	88.7	115.6
1930.....	77.0	84.5	98.4	91.3	78.2	78.7	75.1	88.2	89.9	92.1	69.1	67.2	82.5
1931.....	61.6	62.9	69.5	72.8	69.2	75.4	70.4	84.6	82.4	85.0	58.8	57.7	70.8
1932.....	47.5	58.0	58.1	53.8	47.3	42.4	41.7	49.2	75.9	73.5	48.7	45.2	53.4
1933.....	45.7	47.1	30.8	44.8	49.1	55.8	58.8	62.9	76.6	84.7	58.1	....	....
Chicago ²													
1929.....	98.1	102.2	102.1	103.2	105.5	107.7	106.2	107.9	107.0	106.7	103.6	101.3	104.3
1930.....	95.4	92.9	95.5	90.6	85.3	81.7	76.3	75.2	73.3	70.6	65.9	65.5	80.7
1931.....	64.2	64.4	63.4	61.4	58.8	57.1	54.7	54.9	50.4	48.5	45.1	46.9	55.8
1932.....	45.8	42.9	40.4	36.9	35.3	34.4	29.8	32.4	32.9	32.2	29.3	29.1	35.1
1933.....	29.2	29.4	26.4	27.2	30.1	33.2	36.2	40.6	41.1	40.6	38.6	....	....
Danville													
1929.....	83.5	84.8	91.8	104.0	103.1	100.7	90.1	87.4	83.8	75.7	76.4	71.0	87.7
1930.....	64.3	66.1	65.6	70.1	76.2	72.1	75.3	70.0	61.5	63.2	59.9	53.8	66.5
1931.....	28.0	34.0	64.7	75.8	88.6	85.3	67.2	61.9	62.1	51.5	53.0	50.2	60.2
1932.....	46.9	67.1	68.6	44.9	43.2	37.6	31.8	30.9	32.1	34.3	32.5	30.6	41.7
1933.....	34.2	29.9	29.5	32.5	36.6	38.9	39.4	44.0	43.2	41.9	41.8	....	....
Decatur													
1929.....	95.6	103.1	104.4	101.7	98.9	101.3	93.6	99.6	92.5	99.0	91.5	88.5	97.5
1930.....	84.3	85.6	81.1	82.2	85.0	75.7	66.6	70.3	73.3	73.8	67.3	71.7	76.4
1931.....	66.3	72.3	72.2	70.3	75.4	66.5	68.2	65.9	63.9	59.7	57.8	61.9	66.7
1932.....	54.8	53.3	48.1	50.2	48.4	42.8	40.2	38.4	41.6	42.5	39.2	37.3	44.7
1933.....	38.8	38.5	37.6	40.3	46.9	50.4	49.0	52.3	58.5	57.3	58.4	....	....
East St. Louis													
1929.....	105.4	102.0	102.5	105.8	104.2	100.4	101.1	102.9	106.1	102.8	91.8	90.5	101.3
1930.....	95.9	98.3	94.9	100.5	95.2	95.1	90.2	87.3	92.9	83.3	73.8	72.5	90.0
1931.....	70.6	66.9	72.1	79.5	77.4	72.3	73.1	72.8	70.3	61.4	62.3	70.9	70.9
1932.....	60.5	59.3	58.8	57.6	60.8	58.2	57.5	54.6	57.7	53.7	51.7	49.6	53.4
1933.....	49.6	44.7	42.7	44.9	49.4	54.2	63.4	65.5	75.3	77.6	67.4	....	....
Joliet													
1929.....	88.3	103.8	99.3	111.8	112.9	115.7	105.4	113.9	108.8	109.5	112.7	98.3	106.7
1930.....	85.0	98.4	92.6	99.0	98.2	94.1	87.5	77.5	73.0	76.0	67.2	63.2	84.3
1931.....	63.0	69.6	70.0	75.1	69.8	60.9	49.9	43.7	36.5	39.3	34.4	38.0	54.2
1932.....	39.8	36.1	37.7	33.4	25.0	20.9	16.9	17.7	19.2	20.0	18.3	17.5	25.2
1933.....	14.6	17.4	16.6	20.5	25.4	27.0	33.2	39.2	35.2	31.9	31.3	....	....

¹Data obtained thru the courtesy of the Illinois Department of Labor, Division of Labor Statistics. Calculated currently from monthly reports issued by this Department. ²Converted from 1925-1927 base by multiplying by 1.02669.

TABLE 9.—INDEXES OF FACTORY PAYROLLS IN 14 ILLINOIS CITIES,
1929 TO 1933—*Concluded*
(December 1928 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
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Moline													
1929.....	106.6	111.9	111.7	109.2	106.9	90.3	75.5	86.8	93.3	92.9	92.4	92.0	97.4
1930.....	88.4	90.3	96.3	92.1	82.0	61.3	43.4	49.9	56.0	49.3	50.0	55.2	67.8
1931.....	51.4	50.4	48.7	43.3	34.8	24.8	20.8	17.1	17.0	17.5	14.5	18.5	29.9
1932.....	18.5	18.3	19.4	18.9	12.8	9.8	7.9	8.7	10.4	10.7	12.9	13.8	13.5
1933.....	13.6	14.9	12.6	13.2	15.2	16.8	14.8	18.4	22.8	24.5	25.8	....	....

Peoria													
1929.....	98.7	109.2	113.0	116.1	113.5	108.6	110.1	114.7	115.2	113.9	110.6	114.4	111.9
1930.....	112.6	117.4	118.7	119.6	118.6	114.6	99.2	72.9	70.1	73.7	74.7	77.2	97.4
1931.....	78.8	83.4	79.6	77.1	80.3	75.9	71.0	55.9	62.4	64.6	63.2	64.2	71.4
1932.....	64.9	68.6	68.1	70.3	66.2	61.2	43.6	34.2	39.5	47.3	49.9	53.0	55.5
1933.....	52.0	58.0	52.3	47.7	45.1	56.6	60.9	70.0	80.5	85.8	95.1	....	....

Quincy													
1929.....	91.4	109.9	112.4	119.5	124.8	117.6	102.3	112.1	102.8	94.2	96.0	94.2	106.4
1930.....	87.3	85.4	101.3	106.9	107.2	101.8	66.4	77.4	75.2	70.9	64.8	51.9	83.0
1931.....	71.0	70.1	61.9	67.9	74.8	68.9	71.0	64.0	62.7	60.3	52.3	48.3	64.4
1932.....	41.4	42.0	43.4	41.4	41.5	45.9	43.3	42.4	52.2	50.7	53.3	41.8	45.0
1933.....	33.5	40.1	43.0	50.8	45.8	48.9	55.9	57.6	68.9	72.7	53.1	....	....

Rockford													
1929.....	97.0	107.1	109.8	109.3	107.7	103.4	98.9	103.5	98.2	100.4	92.0	85.4	101.5
1930.....	80.1	81.5	79.5	78.1	77.9	77.1	62.9	62.0	57.6	61.8	57.0	58.3	69.5
1931.....	51.0	53.2	53.7	51.6	52.5	43.8	42.3	43.2	40.7	39.3	38.0	39.1	45.7
1932.....	40.0	38.8	38.2	31.2	24.4	22.4	18.8	19.9	19.7	23.9	24.8	23.9	27.2
1933.....	22.9	24.3	20.2	18.9	23.6	28.4	29.4	33.3	31.4	36.2	36.9	....	....

Rock Island													
1929.....	105.2	102.9	106.6	106.9	104.8	102.3	97.5	81.2	92.2	103.3	99.0	95.2	99.7
1930.....	98.4	91.2	97.9	88.6	84.4	71.2	47.7	61.7	61.6	54.4	45.5	44.9	70.6
1931.....	34.6	41.3	44.9	42.7	34.4	33.5	35.4	29.7	33.6	26.5	25.3	24.7	33.9
1932.....	26.7	22.4	20.3	18.0	16.0	17.2	16.2	17.6	18.1	18.2	20.1	18.4	19.1
1933.....	12.6	16.4	16.6	18.3	16.6	17.7	14.3	21.0	22.8	23.9	23.4	....	....

Springfield													
1929.....	97.8	107.2	109.6	107.7	108.0	111.9	51.9	108.2	104.8	116.2	99.1	97.2	101.6
1930.....	94.7	97.3	100.7	103.3	81.2	84.0	39.2	79.4	87.0	99.2	78.6	86.9	85.9
1931.....	75.0	90.9	96.5	101.3	104.4	96.8	122.0	120.0	124.1	94.6	72.3	78.2	98.0
1932.....	74.6	75.2	72.9	68.1	56.1	58.7	44.8	57.8	42.2	42.2	51.4	46.2	57.5
1933.....	46.3	49.1	39.2	32.8	32.2	45.4	47.8	56.8	50.0	47.0	39.2	....	....

Sterling-Rock Falls													
1929.....	101.0	107.8	110.0	102.7	99.6	96.5	89.5	90.0	87.6	94.4	90.7	99.6	97.4
1930.....	96.5	113.9	107.3	85.3	83.3	74.8	61.6	57.1	58.4	69.8	69.2	76.3	79.4
1931.....	78.5	78.1	69.7	59.8	54.6	47.4	43.5	39.4	39.8	41.2	47.5	54.5	54.9
1932.....	53.5	51.0	44.0	35.9	32.5	29.9	26.5	26.7	20.9	26.6	28.3	32.7	34.0
1933.....	30.2	35.7	25.0	28.0	31.5	44.8	46.9	54.1	49.7	50.8	52.7	....	....

Moline payrolls in 1932 were the lowest for any of the cities included in this study. The manufacture of farm implements, which is the major industry in Moline, fell to an extremely low level. This decline was the result, primarily, of the increased quantities of farm products that were required to buy implements and the small net incomes, if any, from farming. With increased prices for farm products the market for farm machinery can be expected to improve. One-twelfth of the wage earners engaged in the metals industries and one-thirtieth of all wage earners, in Illinois, are normally employed in the manufacture of farm implements.

Peoria. By 1932 factory payrolls in Peoria had declined to 55.5 percent of those for December, 1928 (Fig. 10 and Table 9). Unlike payrolls in most of the other Illinois cities which reached their peak some time in 1929, Peoria payrolls did not reach a peak until April, 1930. This extension of business activity into 1930 resulted primarily from the filling of large contracts for tractors from the Russian government. After these orders had been filled, payrolls declined sharply in 1930, but less rapidly in 1931 and in 1932. In December, 1932, they were 53.0 percent, or slightly more than half, of those in December, 1928. In November, 1933, they had increased to 95.1 percent of those for the base month.

Quincy. Factory payrolls in Quincy by 1932 had declined to 45 percent, or slightly less than half, of those for December, 1928 (Fig. 10 and Table 9). They reached a peak of 124.8 percent in May, 1932. During both 1930 and 1931 they fell rapidly but stayed at a relatively even level in 1932. In December, 1932, they were 41.8 percent of those for December, 1928. In November, 1933, they had increased to 53.1 percent of those for the base month.

Rockford. Factory payrolls in Rockford had declined by 1932 to 27.2 percent, or to about one-fourth, of those in December, 1928 (Fig. 10 and Table 9). They reached a peak of 109.8 percent in March, 1929. From the latter part of 1929 to the middle of 1932 they declined rapidly, reaching a low of 18.8 percent in July, 1932. In December, 1932, they were 23.9 percent of those for December, 1928, having risen somewhat during the latter part of 1932. In November, 1933, they had increased to 36.9 percent of those for the base month.

Rock Island. Factory payrolls in Rock Island fell from an index of 99.7 in 1929 to 19.1 in 1932, a total reduction of about four-fifths (Fig. 10 and Table 9). They reached a peak of 106.9 percent in April, 1929. During the summer of 1930 they declined precipitously until in January, 1931, they were 34.6 percent, or less than one-third, of those in April, 1929. They continued to decline in 1931 and 1932. In December, 1932, they were 18.4 percent, or less than one-fifth, of those

in December, 1928. In November, 1933, they had increased to 23.4 percent of those for the base month.

Springfield. By 1932 factory payrolls in Springfield had declined to 57.5 percent, or to about three-fifths, of those for December, 1928 (Fig. 10 and Table 9). The trend was downward from 1929 to the middle of 1930. A sharp upward movement which followed this downward trend reached a peak of 124.1 percent in September, 1931. A drastic decline occurred during the next few months. In December, 1932, payrolls in this city averaged 46.2 percent, or less than two-fifths, of those in December, 1928. In November, 1933, they were 39.2 percent of those for the base month.

Springfield payrolls in both 1931 and 1932 were the highest of the fourteen cities included in this study.

Sterling-Rock Falls.¹ Factory payrolls in Sterling-Rock Falls fell from an index of 97.4 in 1929 to 34 in 1932, or to about one-third of that for 1929 (Fig. 10 and Table 9). Payrolls in this city reached a peak of 113.9 percent in February, 1930. While each year a seasonal upturn of payrolls has occurred during the winter months, the trend has been sharply downward since February, 1930. In December, 1932, payrolls were 32.7 percent of those in December, 1928. In November, 1933, they had increased to 52.7 percent of those for the base month.

Other Cities. Beginning with January, 1933, the Illinois Department of Labor has published changes in employment and payrolls for Alton, Belleville, Elgin, Freeport, Granite City, Kankakee-

TABLE 10.—INDEXES OF FACTORY PAYROLLS IN SEVEN ILLINOIS CITIES,
BY MONTHS, 1933¹
(December 1932 = 100)

City	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
Alton.....	100	111	118	123	169	178	167	171	163	173	175	..	..
Belleville.....	62	82	80	84	86	112	117	116	131	136	118	..	..
Elgin.....	55	65	69	65	73	99	100	103	138	150	184	..	..
Freeport.....	84	99	92	79	97	109	112	122	125	122	120	..	..
Granite City.....	86	98	101	117	123	171	203	223	209	209	195	..	..
Kankakee-Bradley..	85	103	99	106	125	150	119	147	162	164	139	..	..
LaSalle-Peru- Oglesby.....	106	102	96	95	90	103	169	177	171	180	171	..	..

¹Calculated currently from monthly reports of Illinois Department of Labor, Division of Labor Statistics.

Bradley, and LaSalle-Peru-Oglesby, in addition to those of cities previously shown. No data for this group of cities are available for earlier years. The course of payrolls for these cities in 1933 is shown in Table 10.

¹Sterling and Rock Falls industries were included together by the classification of the Division of Labor Statistics of the Illinois Department of Labor.

CHANGES IN THE DEMAND FOR MILK AND CREAM

Consumers in the United States from 1929 to 1933 experienced a greater reduction in incomes than they have experienced since official measures of purchasing power have been available. As a result of this reduction in income they have been forced to make drastic reductions in expenditures. In the fluid-milk industry these reductions have meant decreases in the per-capita consumption of milk in each market for which sales data are available, in spite of the reduced milk prices that have been in effect. There are two underlying reasons for this decline in milk consumption: (1) the purchasing power of consumers declined far more than did the retail prices of milk; and (2) retail prices of many foods other than milk were reduced more than were those of milk. With less money to spend, consumers turned to the cheaper sources of food.

In 1932 the per-capita consumption of milk in Boston was 98.9 percent of that for 1930; in New York, 96.7 percent of that in 1929; in Philadelphia, 90 percent of that in 1929; in San Francisco, 93.9 percent, and in Oakland, Berkeley, and other cities in Alameda county, California, 96.1 percent of that for 1929 (Fig. 11 and Table 11). In Rochester the per-capita consumption of milk in November, 1932, was 88.5 percent of that in November, 1931.

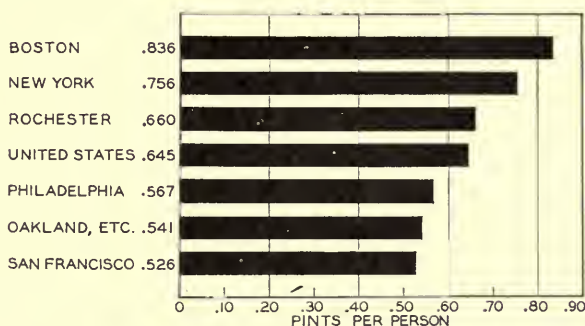


FIG. 11.—DAILY PER-CAPITA CONSUMPTION OF MILK IN SIX CITIES AND THE UNITED STATES, 1932

The per-capita consumption of milk in different cities varies widely. For the country as a whole, it is less than half that recommended by nutrition authorities.

In many city markets during recent years declines in sales of cream have been greater than those for milk. In 1932 the per-capita consumption of cream received in Boston was 90.3 percent of that in 1930; in New York, 90.2 percent of that for 1929; and in Philadelphia, 67.3 percent of that for 1929 (Table 11). In Rochester the per-capita consumption of cream in November, 1932, was 88.0 percent

TABLE 11.—SUMMARY OF PER-CAPITA CONSUMPTION OF MILK AND CREAM, FACTORY PAYROLLS, RETAIL PRICES OF ALL FOODS, AND RETAIL PRICES OF MILK, IN SEVEN MARKETS IN THE UNITED STATES, 1932

	Base period	1932	Daily consumption per capita in 1932
		Percent of base period	
Per-capita consumption of milk			
Boston ¹	1930 = 100	98.9	<i>pints</i> .836
New York ²	1929 = 100	96.7	.756
Philadelphia ²	1929 = 100	90.0	.567
Peoria ³	1931 = 100	89.3	.562
Rochester ⁴	1931 = 100	88.5	.660
San Francisco ⁵	1929 = 100	93.9	.526
Markets in Alameda county, California ⁶	1929 = 100	96.1	.541
Per-capita consumption of the milk equivalent of cream			
Boston.....	1930 = 100	90.3	.720
New York ¹	1929 = 100	90.2	.406
Philadelphia ²	1929 = 100	67.3	.226
Rochester ⁴	1931 = 100	88.0	.161
Factory payrolls and retail prices			
Factory payrolls in United States ⁶	1925-1927 = 100	44.2	....
Retail prices of 42 foods ⁷	1925-1927 = 100	64.7	....
Retail prices of milk ³	1925-1927 = 100	77.9	....

¹See Table 26. ²See Table 25. ³See Table 17, includes table cream. ⁴Data for November, 1931, as compared with November, 1932. From *Farm Economics*, No. 81, Cornell University, June, 1933, p. 1960. ⁵See Table 27. ⁶Data calculated from that compiled by the Federal Reserve Board. ⁷See Table 28. ⁸See Table 29.

of that for November, 1931. Losses in cream sales greater than those of milk can be attributed primarily to two factors: (1) cream is more of a luxury than milk; and (2) in general, cream prices have been sustained at levels relatively higher than milk prices, competition having been less keen in the sale of cream than in the sale of milk.

Sales of members of the International Milk Dealers' Association in 1932 were 31.5 percent less than those of 1929.¹ Part of the sales of these dealers were supplanted by store sales and by new milk dealers entering the various markets. For the larger commercial fluid markets in the United States the estimated per-capita consumption of milk and cream in 1932 was 10 to 15 percent lower than that a few years earlier.

Declines in the consumption of milk and cream during recent years have been due principally to the sustaining of retail prices for these products too high in relation to consumers' purchasing power. Consumers' incomes in 1932, as measured by factory payrolls, averaged

¹Taken from annual address of the president of the association. *American Creamery and Poultry Produce Review*, October 26, 1932.

44.2 percent, or less than half of those for 1925-1927, while the retail prices per quart of milk in the United States averaged 77.9 percent, or more than three-fourths, of those in 1925-1927. Expressed otherwise, with 44 percent as much money to spend, consumers in 1932 had to pay 78 percent as much for milk. Moreover other foods were cheaper, the retail price of 42 foods in 1932 averaging 64.7 percent, or slightly less than two-thirds, of those for 1925-1927.

This drastic reduction in consumer purchasing power, combined with other changes, has placed the fluid-milk industry in a situation quite different from that of the prosperous period of the twenties and has forced recognition of economic truths and facts which in some cases are in sharp contrast to opinions prevailing in the earlier period.

DECLINING POPULATION CURVE CURTAILS POTENTIAL MARKET FOR MILK AND CREAM

The market demand for any commodity is dependent on the number of persons buying it and the amount which each person will buy. In general the potential market demand for milk is represented by the total population. Consequently changes in population furnish a useful measure for determining the probable future demand for market milk.

From 1790 to 1880 population in the United States increased an average of 3.1 percent annually. During the next thirty years the average annual increase was 2.2 percent. From 1910 to 1930 the rate of increase had declined to 1.6 percent annually. During the latter part of the decade 1920-1930 the U. S. Bureau of Census estimated the average increase at .71 percent annually. While authorities do not agree on the exact time, they are in general agreement that a stationary population will be reached within twenty-five to forty years.

Dr. O. E. Baker, an authority on population trends, expects a stationary population in about a quarter of a century to be followed by a decline.¹ Dr. Louis I. Dublin, statistician of the Metropolitan Life Insurance Company, and his associate, Dr. Latka, have estimated that a stationary population will be reached in the United States by 1970.² In 1932 the birth rate in the United States was at a lower level than that of France.¹ Measured in actual numbers, the increase in population in the United States in 1932 was less than one million compared with more than two million in 1923.³

¹Baker, O. E. Ratio of Children Under Five Years of Age to Women of Child Bearing Age, Rural and Urban. Address before the Population Association of America, New York City, April 22, 1932.

²Dublin, Louis I. Birth Control and America's Population. *The Forum*, November, 1931.

³Jordan, G. L. Changing Food Habits in Relation to Land Utilization in the United States. Unpublished thesis, University of Illinois, 1933.

In 1930 the population in Illinois was 7,630,654, or 58 percent above that of 1900 (Table 12). This rate of increase corresponded closely with that for the United States during this period. Within Illinois there has been a wide range in the relative increase in population of different cities. Ten markets for Illinois milk more than doubled their population during the past thirty years. The relative increase ranged from 110 percent for Springfield to over 700 percent for Granite City.

TABLE 12.—POPULATION IN THE UNITED STATES AND IN TWENTY-TWO MARKETS FOR ILLINOIS MILK WHICH HAD A POPULATION IN 1930 OF 25,000 OR MORE¹

	1900	1910	1920	1930	Percent increase by 1930 since—	
					1900	1920
United States.....	75 994 575	91 972 266	105 710 620	122 775 046	61.5	16.1
Illinois.....	4 821 550	5 638 591	6 483 280	7 630 654	58.3	17.7
<i>Cities</i>						
Alton.....	14 210	17 528	24 682	30 151	112.2	22.2
Aurora.....	24 147	29 807	36 397	46 589	92.9	28.0
Belleville.....	17 484	21 122	24 823	28 425	62.6	14.5
Bloomington.....	23 286	25 768	28 725	30 930	32.8	7.7
Champaign-Urbana ²	14 826	20 666	26 117	33 408	125.3	27.9
Chicago (Cook co.).....	1 838 735	2 405 233	3 053 017	3 982 123	116.6	30.4
Danville.....	16 354	27 871	33 776	36 765	124.8	8.8
Decatur.....	20 754	31 140	43 818	57 510	177.1	31.2
East St. Louis.....	29 655	58 547	66 767	74 347	150.7	11.4
Elgin.....	22 433	25 976	27 454	35 929	60.2	30.9
Galesburg.....	18 607	22 089	23 824	28 830	54.9	21.0
Granite City.....	3 122	9 903	14 757	25 130	704.9	70.3
Joliet.....	29 353	34 670	38 442	42 993	46.5	11.8
LaSalle-Peru-Oglesby ³	17 309	19 521	26 054	26 180	51.2	.5
Moline.....	17 248	24 199	30 734	32 236	86.9	4.9
Peoria.....	56 100	66 950	76 121	104 969	87.1	37.9
Quincy.....	36 252	36 587	35 978	39 241	8.2	9.1
Rockford.....	31 051	45 401	65 651	85 864	176.5	30.8
Rock Island.....	19 493	24 335	35 177	37 953	94.7	7.9
Springfield.....	34 159	51 678	59 183	71 864	110.4	21.4
Waukegan.....	9 426	16 069	19 226	33 499	255.4	74.2
St. Louis, Missouri ⁴	575 238	687 029	772 897	822 032	42.9	6.4

¹From U. S. Census. ²Includes population of Champaign and Urbana. Does not include approximately 10,000 students at the University of Illinois. ³Includes population of LaSalle, Peru, and Oglesby. ⁴Does not include population of the suburbs of St. Louis. In 1930 the population of metropolitan St. Louis was 1,293,516.

From 1920 to 1930 population in twelve Illinois cities, including Waukegan, Granite City, Peoria, Decatur, Chicago, Elgin, Rockford, Aurora, Champaign-Urbana, Alton, Springfield, and Galesburg, increased more rapidly than the average for the state (Fig. 12). Population in Chicago in 1930 was 30.4 percent higher than in 1920. The population in the eleven cities other than Chicago in 1930 averaged 32.8 percent higher than in 1920.

The population in LaSalle-Peru-Oglesby, Moline, Bloomington, Rock Island, Danville, Quincy, East St. Louis, Joliet, and Belleville increased less rapidly than the average for the state.

The fact that population is increasing at a declining rate intensifies the problem of bringing about any marked increase in total sales of market milk. Problems of local milk distribution increase when the

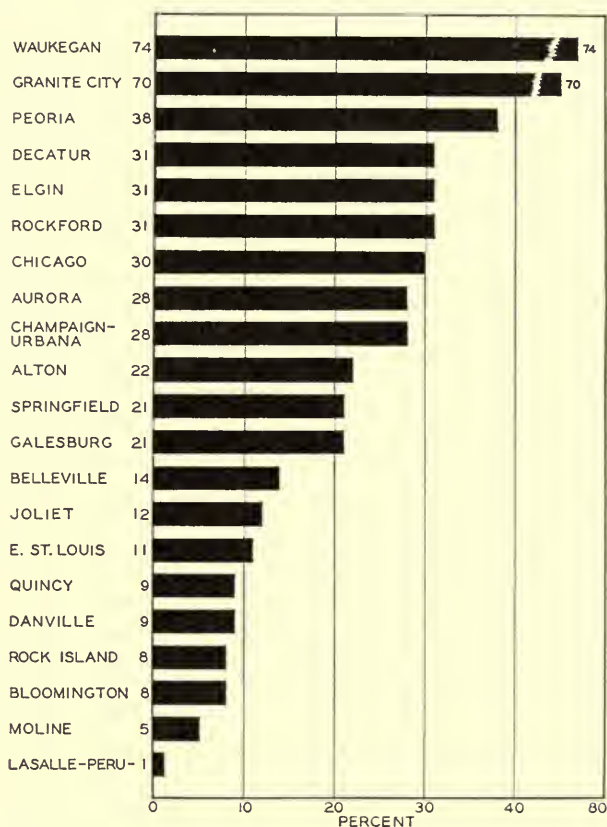


FIG. 12.—PROPORTIONAL INCREASE IN POPULATION OF TWENTY-ONE ILLINOIS CITIES FROM 1920 TO 1930

From 1920 to 1930 the population in Waukegan, Granite City, Peoria, Decatur, Chicago, Elgin, Rockford, Aurora, Champaign-Urbana, Alton, Springfield, and Galesburg increased more rapidly than the average for the state.

rate of increase in population declines, since it is less easy for either old or new distributors to find expanding outlets for their products. Dealers who survive under these new conditions are likely to be the ones who have become the most efficient.

INCREASED PER-CAPITA CONSUMPTION AS A POTENTIAL OUTLET FOR MILK AND CREAM

Recognized food authorities such as Drs. E. V. McCollum, Mary Swartz Rose, and H. C. Sherman recommend a quart of milk daily for children and a pint daily for adults. On a weighted basis this amounts to 1.35 pints daily per person (Table 14). According to estimates of the Bureau of Agricultural Economics, the daily consumption of milk for 1929-1931 averaged .645 pint per person (Table 13), or less than half that recommended by these authorities. Since population increases hold little encouragement for a materially greater market, and per-capita consumption is so far below the recognized optimum, it would seem that the greatest opportunity for widening the market for fluid milk lies in increasing the present per-capita consumption.

To farmers higher per-capita consumption of milk means higher gross incomes since milk utilized in fluid form returns a higher price than that utilized in cream or in manufactured products. Thus in 1933 dairymen supplying market milk to 35 cities in the North-Central states received an average price of \$1.50 per 100 pounds of milk used for the bottled and bulk-milk trade. This was 58 cents more per 100 pounds than the average price (92 cents) received in 1933 for milk at condenseries in this area. If costs for hauling milk to the city markets averaged 10 cents more than those for hauling to condenseries, the net price received by farmers in 1933 for market milk above the average condenser price, was 48 cents per 100 pounds, or about 1 cent a quart. Assuming that the average daily consumption of milk could be increased as much as one-fifth of a pint per person, at the rate of 48 cents per 100 pounds farmers would receive an in-

TABLE 13.—AVERAGE ESTIMATED CONSUMPTION OF MILK AND CREAM IN THE UNITED STATES, 1929-1931

	Whole milk used 1929-1931
	<i>millions of pounds</i>
Consumption by nonfarm population ¹	32 270
Farm consumption ²	11 042
Total consumption of milk and cream.....	43 312
Milk equivalent of cream consumption ³	12 192
Milk consumption.....	31 120
Per-capita consumption of milk.....	.645 pint per day

¹Data from *Milk and Butterfat Production and Utilization in the United States*, U. S. Bureau of Agricultural Economics, Nov. 21, 1932, p. 9, Table 6. ²*Ibid.*, Table 2, p. 5. ³In 1931, 6.6894 percent of the total estimated milk equivalent of milk and cream consumed in the United States was utilized in ice cream. In 1931, 34.8379 percent of the total milk equivalent of milk and cream (including that utilized in cream) consumed in the New York and Philadelphia markets was utilized in cream. The estimated percentage of the total milk equivalent of milk and cream used in cream, other than that used in ice cream, equals 34.8379 minus 6.6894, or 28.1485. This proportion of cream to total milk equivalent is applied to the total consumption of milk and cream in arriving at the milk equivalent of cream consumption in the United States.

crease in gross income of about \$3,000 a month, or \$36,000 a year, for each 100,000 people served.¹

To milk dealers higher per-capita consumption means the opportunity to lower their unit-costs of distribution, and it is therefore to their interests to so adjust their systems of retail distribution as to encourage higher per-capita consumption.

TABLE 14.—MILK REQUIREMENTS PER CAPITA FOR RECOMMENDED DIET COMPARED WITH PER-CAPITA UTILIZATION OF MILK IN THE UNITED STATES, 1929-1931

Age-group	Number ¹	Proportion of total population ¹	Amount of milk recommended daily per person ²	Weighted daily average
		<i>percent</i>	<i>pints</i>	<i>pints</i>
Under 18 years.....	43 015 712	35.04	2	.7008
18 and over.....	79 759 334	64.96	1	.6496
Total.....	122 775 046	100.00	...	1.3504
Milk consumption in the United States, 1929-1931.....				.645*
Net difference.....				.705
Proportion of actual consumption to recommended consumption.....				47.8%

¹U. S. Census, 1930. ²Recommended by Drs. E. V. McCollum, H. C. Sherman, and M. S. Rose. *See Table 13.

Two important economic considerations are involved in increasing the consumption of milk; namely, (1) an aggregate increase in consumer purchasing power and a wider distribution of incomes; (2) a policy of maintaining consumer prices for milk that are not out of line with other retail food prices.

The federal government has initiated the policy of increasing the minimum of wages of employees under the National Industrial Recovery Act. From March to September, 1933, the total purchasing power of consumers in the United States moved upward. If it continues to increase, and the distribution of this income continues to widen, consumers will be able to spend more for milk and meat products.

How Can Per-Capita Consumption of Milk Be Increased?

The first essential for increasing the per-capita consumption of milk is to assure consumers that only high-quality milk is being sold. Attempts to bring about permanent increases in the consumption of milk without regard to this essential are likely to be abortive, since any unfavorable influence, such as an epidemic of a contagious disease, quickly destroys public confidence in this product.

¹From 1930 to 1932 the average daily consumption of milk at Boston was .85 pint per person as compared with .64 pint for the United States from 1929-1931. The net difference in these averages is .21 pint, or about one-fifth pint per person.

The second essential for increasing the per-capita consumption of milk is to offer milk at retail milk prices that are not out of line with prices of competitive foods. The past few years have given abundant evidence of the failure of attempts to increase the consumption of milk when high-priced milk has been advertised. Neither farmers nor dealers can afford to spend large sums of money in efforts to increase the consumption of milk unless they can offer a high-quality product at a price that meets the competition of prices for other foods.

Assuming that the two essentials mentioned above for increasing the consumption of milk have been met, a well-defined program of education will be necessary to get consumers to spend a greater proportion of their income for milk. An educational program of this kind could be administered by such agencies as the national and regional dairy councils working with the consumers' organizations, schools, and possibly with county organizations which have been engaged in production-control programs. All expenditures of funds for increasing consumption should be carefully planned in order to insure results commensurate with their cost.

Units of Land and Labor Necessary to Supply Increased Volume of Milk

Coincident with the development of an economic and educational program for increasing the per-capita consumption of milk would come up for consideration the problem of increasing the supply of high-quality milk sufficiently to meet the increased demand.

An acre of crop land or the pasture equivalent of crop land, devoted to milk production, will produce 1,317 pounds of milk annually, according to facts compiled in 1931 by Dr. O. E. Baker.¹ Based upon the 1930 population of 122,775,046 people, 25,792,000 acres of land in the United States (Table 15) would be required to produce the additional volume of milk which the recommended consumption would call for.

Studies in various Illinois areas have shown that 1.656 man hours of labor are required to produce 100 pounds of milk (Table 16). At this rate for the United States, 562,510,000 man hours would be required annually to produce the additional volume of milk which the

¹Baker, O. E. The Outlook for Land Utilization in the United States. U.S. Dept. Agr. Ext. Serv. Circ. 168, July, 1931, Fig. 21. Dr. Baker shows that 2.35 acres of crop land and 1.6 acres of pasture devoted to milk production are required to produce 1,400,000 calories in the form of milk. Since crop land produces 76.5 percent of this total heat value, a total of 3.27 acres of crop land, or pasture equivalent of crop land, is necessary to produce 1,400,000 calories. The number of calories supplied per acre by this crop land would be 428,134. As there are 325 calories in a pound of milk, an acre of crop land or its equivalent would produce 1,317 pounds of milk according to this basis.

TABLE 15.—ADDITIONAL LAND AND LABOR REQUIRED TO PRODUCE CERTAIN VOLUMES OF MILK IN EXCESS OF PRESENT ESTIMATED CONSUMPTION

Assuming additional consumption were following proportions of recommended additional consumption	Land requirements		Labor requirements	
	Illinois	United States	Illinois	United States
<i>percent</i>	<i>acres</i>	<i>acres</i>	<i>thousands of man hours</i>	
25	284 000	6 448 000	7 611	140 628
50	567 000	12 896 000	15 222	281 255
75	851 000	19 344 000	22 832	421 882
100	1 134 000	25 792 000	30 443	562 510

TABLE 16.—LABOR REQUIRED TO PRODUCE MILK IN FOUR ILLINOIS AREAS, 1926-1928¹

Area	Man hours per cow	Pounds of milk per cow	Man hours per 100 pounds milk	Approximate number of dairy farms	Farms times man hours per 100 pounds milk
Chicago.....	139	8 064	1.72	7 150	12 298
Northern Illinois outside Chicago....	115	7 784	1.48	3 750	5 550
St. Louis.....	134	6 976	1.92	4 940	9 485
Other.....	81	5 434	1.49	6 600	9 834
Total.....	...	.....	...	22 440	37 167
Weighted average.....	...	.....	1.656	.....	.....

¹Based upon data compiled by the division of Farm Organization and Management and the Department of Dairy Husbandry, University of Illinois.

recommended consumption would call for, or an equivalent of about 200,000 men working the length of day usual in this enterprise.

Under conditions of free competition between different farm products there would be little difficulty in increasing the volume of milk in any given marketing area to the amount required for the increased consumption indicated above, for in most areas the greater income that is obtainable from milk directed to fluid uses over that sold for manufacturing purposes would insure a shifting to the more profitable outlet.

The estimated daily consumption of milk in Illinois, based upon 1927 sales data, is .74 pint per capita,¹ as compared with .64 pint for the United States. Assuming that the optimum consumption of milk is 1.35 pints a day, it is .61 pint a day more than the estimated per-capita consumption in Illinois. Assuming further that the productivity of Illinois land is 23.1 percent² higher than that for the United States, an

¹Based on data included in Ill. Agr. Exp. Sta. Bul. 318, 1928, p. 210, Table 14.

²Calculated on the basis of total average yields per acre of corn and oats and one-third the average acre-yield of wheat, Illinois yields of these crops from 1924 to 1931 averaged 23.1 percent higher per acre than yields for the United States during the same period.

acre of this land devoted to the production of milk would yield 1,621 pounds of milk annually. Based upon Illinois population in 1930 of 7,630,654 people, 1,134,000 acres of Illinois land would be required to produce the additional amount of milk which the recommended consumption would call for (Table 15). The amount of man labor required annually in Illinois to produce this volume of milk would be 30,443,000 hours.

Assuming that the consumption of milk could be increased to the amount recommended, a question which may logically be raised is: What would be the effect of the increased use of milk on the consumption of other foods? One answer given to this question by food authorities is that the increased use of milk probably would have relatively little effect upon the consumption of other foods since so many people have been living on unbalanced diets to which the addition of milk would, in large part, be a supplementary rather than a substitute food.

Practically speaking, it is improbable that the consumption of milk can be increased within a few years to the amount recommended by food authorities. It can be materially increased, however, if minimum wages and aggregate consumer purchasing power are materially increased. The amounts of land and labor which would be utilized with certain fractional increases in the per-capita consumption of milk are shown in Table 15.

TRENDS IN MILK CONSUMPTION IN INDIVIDUAL CITIES

Consumption of Milk and Cream at Peoria

The consumption of milk and table cream in the Peoria market moved upward from October, 1928, to May, 1930. Between June and December, 1930, however, a decline of 13.1 percent was precipitated by a decline of 38 percent in factory payrolls in Peoria, which occurred from April to November, 1930. (Fig. 13 and Appendix Tables 42 and 43). The retail price of milk remained at 13 cents a quart during this period.

In April, 1931, the retail price of milk was reduced from 13 to 10 cents a quart. Prices of other retail units of milk and cream which had not been changed previously were reduced in the same proportions. These reductions in retail prices, combined with a house-to-house sales campaign by the principal dealers, resulted in a 23-percent increase in sales between March and August, 1931. This phenomenal increase in sales, however, was of a temporary nature. The drastic decline of 57.4 percent in local payrolls which occurred between May, 1931, and August, 1932, resulted in a 34-percent decline in sales between the peak month of August, 1931, and the low month of Feb-

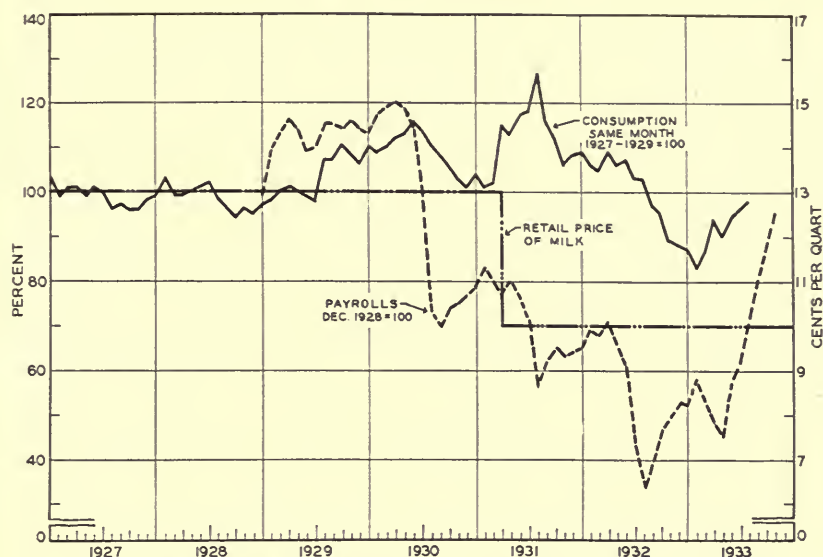


FIG. 13.—CONSUMPTION OF MILK AND CREAM, FACTORY PAYROLLS, AND RETAIL PRICES OF MILK AT PEORIA, BY MONTHS, 1927-1933

The drastic decline of factory payrolls in Peoria in 1930 precipitated a similar decline in the consumption of milk and table cream in this market. A reduction of 3 cents in the retail price of a quart of milk in April, 1931, coupled with a house-to-house sales campaign, caused a temporary increase in milk sales. This increase was followed, however, by a drastic decline as the course of payrolls in this market continued downward.

TABLE 17.—DAILY PER-CAPITA CONSUMPTION OF MILK AND TABLE CREAM IN THE PEORIA MARKET, 1927-1932

Year	Annual consumption of milk and table cream ¹	Daily consumption	Population ²	Daily per-capita consumption
	<i>thousands of pounds</i>	<i>pints</i>		<i>pints</i>
1927.....	23 374	59 570	99 944	.596
1928.....	23 293	59 364	101 619	.584
1929.....	24 289	61 902	103 294	.599
1930.....	25 819	65 802	104 969	.627
1931.....	26 310	67 053	106 644	.629
1932.....	23 931	60 823	108 319	.562

¹See Table 42. ²Population for 1930 from U. S. Census. According to the Bureau of Census estimates, the population in the United States increased only 44.2 percent as rapidly during the latter part of the decade 1920-1930 as it did for the decade as a whole. Hence the population of Peoria for years other than 1930 was interpolated on a basis of 44.2 percent of the average annual increase from 1920 to 1930.

ruary, 1933. During this period the retail price of milk remained at 10 cents a quart.

Sales in Peoria from January to June, 1933, were 12 percent lower than the average of those of corresponding months during 1927-1929.

By August, 1933, sales of milk and cream had increased to 98 percent of those in August, 1925-1927. Factory payrolls in Peoria in August, 1933, were 33 percent higher than those of May. Part of the increase in sales of milk and cream can be attributed to the increase in consumers' incomes.

Consumption of Milk and Cream at New York and Philadelphia

The Situation in 1929-1932.—During the last six months of 1932 milk receipts at New York, as reported by the *American Creamery and Poultry Produce Review*, averaged 96.8 percent of those for the same months in 1929, which was a decrease of 3.2 percent (Fig. 14 and Table 18). For a long time previous to this period, with the exception of the first half of 1932, the trend in total milk receipts in this city

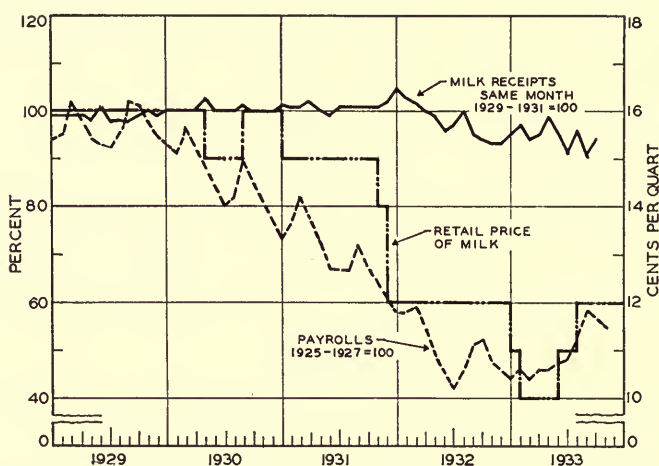


FIG. 14.—MILK RECEIPTS, FACTORY PAYROLLS, AND RETAIL PRICES OF MILK AT THE NEW YORK MARKET, BY MONTHS, 1929-1933

From 1929 to 1931 milk receipts at New York moved slightly upward. During 1932, in spite of drastic reductions in retail prices of milk, the very marked declines in factory payrolls caused milk sales to fall off. Sales in 1933 remained at a relatively low level.

had been upward. From July to December, 1932, milk receipts¹ at Philadelphia, as reported by the U. S. Bureau of Agricultural Economics, averaged 89.3 percent of those for the same months in 1929, a decrease of 10.7 percent (Fig. 15). This decrease was three times as large as that at New York during the same period.

Cream receipts at New York from July to December, 1932, averaged 84.6 percent of those for these same months in 1929, a decrease of 15.4 percent (Table 18). Receipts of cream at Philadelphia during the last six months of 1932 averaged 59.6 percent of those for

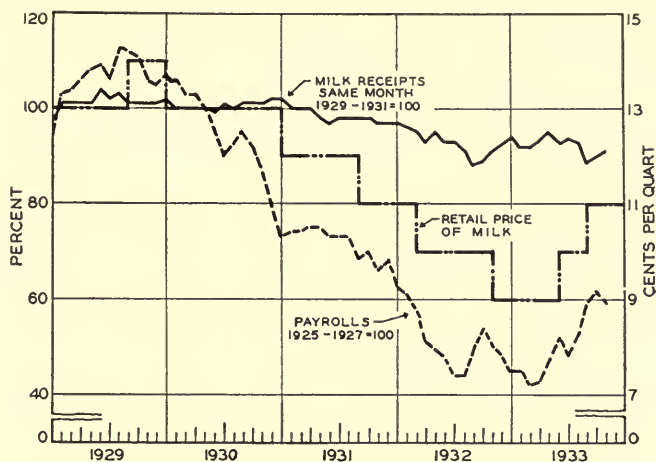


FIG. 15.—MILK RECEIPTS, FACTORY PAYROLLS, AND RETAIL PRICES OF MILK AT THE PHILADELPHIA MARKET, BY MONTHS, 1929-1933

The downward course of milk receipts in the Philadelphia market from 1931 to the middle of 1932 followed that of factory payrolls in this city during the same period. As a result of lower milk prices and a cessation of the rapid decline in payrolls, sales of milk increased during the latter part of 1932 and the first half of 1933.

TABLE 18.—MILK AND CREAM RECEIPTS AT NEW YORK¹ AND PHILADELPHIA², BY SIX-MONTH PERIODS, 1929-1933

Year	Milk receipts at New York				Milk receipts at Philadelphia			
	January to June		July to December		January to June		July to December	
	Thousands of 40-quart units	Percent of 1929	Thousands of 40-quart units	Percent of 1929	Thousands of 40-quart units	Percent of 1929	Thousands of 40-quart units	Percent of 1929
1929.....	17 385	100.0	17 714	100.0	3 702	100.0	3 733	100.0
1930.....	17 702	101.8	18 064	102.0	3 676	99.3	3 719	99.6
1931.....	17 746	102.1	18 263	103.1	3 651	98.6	3 593	96.2
1932 ³	17 699	101.8	17 153	96.8	3 483	94.6	3 333	89.3
1933.....	16 859	96.9	.....	.....	3 431	92.7	3 356	89.9
Year	Cream receipts at New York				Cream receipts at Philadelphia			
	January to June		July to December		January to June		July to December	
	Thousands of 40-quart units	Percent of 1929	Thousands of 40-quart units	Percent of 1929	Thousands of 40-quart units	Percent of 1929	Thousands of 40-quart units	Percent of 1929
1929.....	1 222.7	100.0	1 106.1	100.0	200.7	100.0	194.2	100.0
1930.....	1 236.5	101.1	1 048.9	94.8	199.6	99.4	193.4	99.6
1931.....	1 166.6	95.4	1 094.9	99.0	171.9	85.7	162.0	83.4
1932 ³	1 135.0	92.8	936.1	84.6	156.7	78.4	115.8	59.6
1933.....	924.6	75.6	.....	.....	139.4	69.4	129.2	66.5

¹Data from revised figures of *American Creamery and Poultry Produce Review*. Cream receipts for New York also include monthly shipments of plain condensed milk. See Appendix Tables 45 and 48. ²Data from U. S. Bureau of Agricultural Economics. See Appendix Tables 46 and 50. ³Converted to a 28-day basis.

the same months in 1929, a decrease of 40.4 percent. The decrease of cream receipts reported at Philadelphia during the latter half of 1932 was over twice that for New York during this period.¹

In observing these facts two questions naturally arise: (1) Why did sales of milk and cream decline in these markets from 1929 to 1932? (2) Why did they decline more at Philadelphia than at New York?

The principal reason for the decline in sales of milk and cream has been the inability of consumers to buy as much of these products as formerly because of the drastic decline in incomes. As measured by factory payrolls, consumers' incomes at New York in 1932 were 51 percent, and at Philadelphia 52 percent, or approximately one-half, of the averages for 1925-1927 in both of these markets (Fig. 16 and Table 19). This change in purchasing power forced consumers to spend carefully.

TABLE 19.—INDEXES OF FACTORY PAYROLLS AT NEW YORK¹, PHILADELPHIA², AND IN MASSACHUSETTS³, 1926-1932
(1925-1927 = 100) •

Year	New York	Philadelphia	Massachusetts
1926.....	101	103	102
1927.....	99	99	99
1928.....	94	95	93
1929.....	97	106	97
1930.....	87	96	79
1931.....	70	71	64
1932.....	51	52	44
1933.....	50	51	48

¹From current issues of the *Industrial Bulletin*, New York State Department of Labor. ²Original data from the Bureau of Statistics, Pennsylvania Department of Labor and Industry. Changed from 1923-1925 base to 1925-1927 base by multiplying by .98652. ³From *Survey of Current Business*, December, 1932, p. 18, and from current reports of Massachusetts Department of Labor and Industries.

The fact that milk receipts at New York were sustained at a higher level than those at Philadelphia from 1929 to 1932 (Fig. 17) can be attributed primarily to the relatively low prices at which this milk could be obtained from stores in this market during this period and the influence which store prices had upon retail delivered prices. From 1929 to the early part of 1933 store prices of dipped milk in

¹Milk and cream receipts furnish the best measures of consumption of milk for the New York, Boston, and Philadelphia markets. The greater part of the milk not utilized in whole form is separated or manufactured at country plants located within the respective milksheds. Cream receipts include both the cream consumed as coffee and whipping cream and that manufactured into ice cream. A small proportion of cream receipts during certain months are stored, hence current receipts do not exactly measure current consumption of cream. Over a six months' period, however, this difference becomes negligible when the data are reduced to a percentage basis.

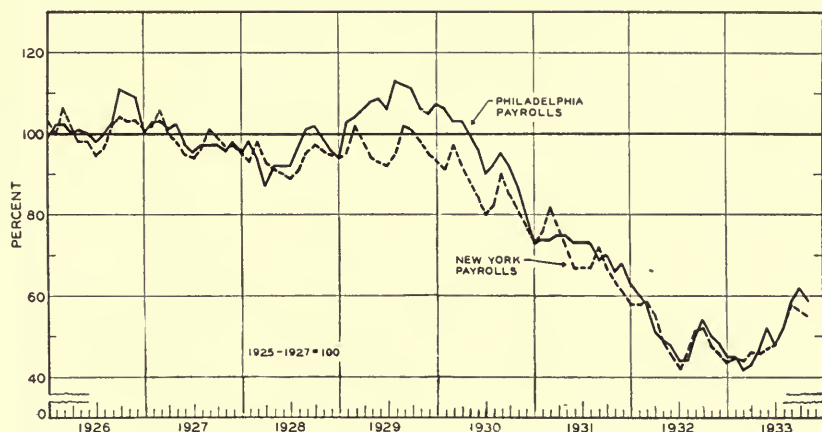


FIG. 16.—FACTORY PAYROLLS AT NEW YORK AND PHILADELPHIA, BY MONTHS, 1926-1933

With the exception of changes during 1929 and 1930, the courses of factory payrolls at New York and Philadelphia have been similar.

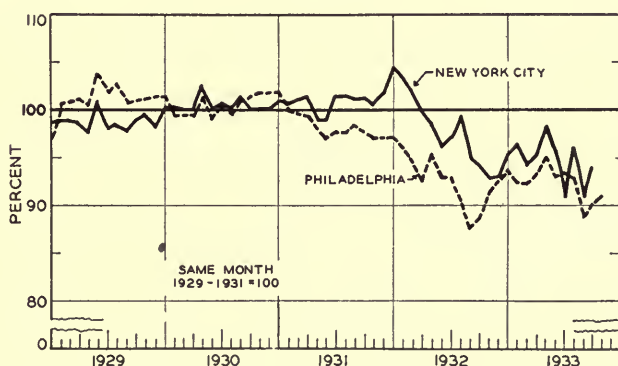


FIG. 17.—MILK RECEIPTS AT NEW YORK AND PHILADELPHIA, BY MONTHS, 1929-1933

During 1931 and the early part of 1932 sales of milk at Philadelphia fell off far more rapidly than at New York. The greater stability of sales at New York can be attributed, at least partly, to the relatively low prices for milk that prevailed in that city at that time. The discrepancy between sales of milk at New York and at Philadelphia has become less since the summer of 1932, when retail milk prices were markedly reduced at Philadelphia.

New York ranged from 4 to 6 or 7 cents a quart below the retail price of milk delivered to consumers, and from 2 to 4 or 5 cents a quart below both the store and delivered price to consumers in Philadelphia. In Philadelphia store prices to consumers for both milk and

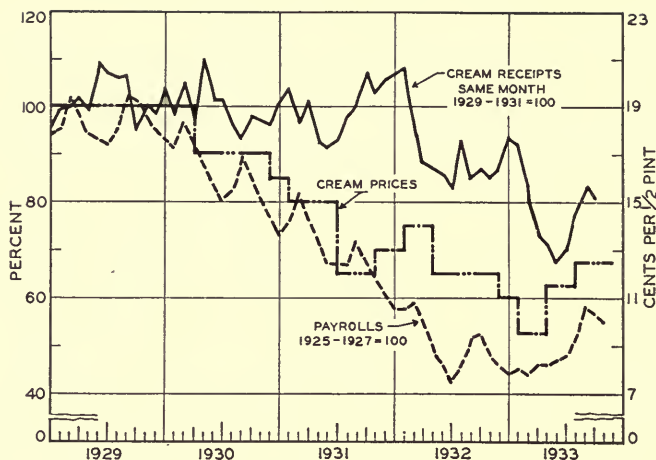


FIG. 18.—CREAM RECEIPTS, FACTORY PAYROLLS, AND RETAIL PRICES OF LIGHT CREAM AT THE NEW YORK MARKET, BY MONTHS, 1929-1933

In spite of drastic reductions in cream prices, the course of cream receipts at New York was downward from 1930 to 1933, with the exception of a temporary rise from July, 1931, to January, 1932. Had cream prices been sustained at a high level, the loss in sales in this market would undoubtedly have been far greater.

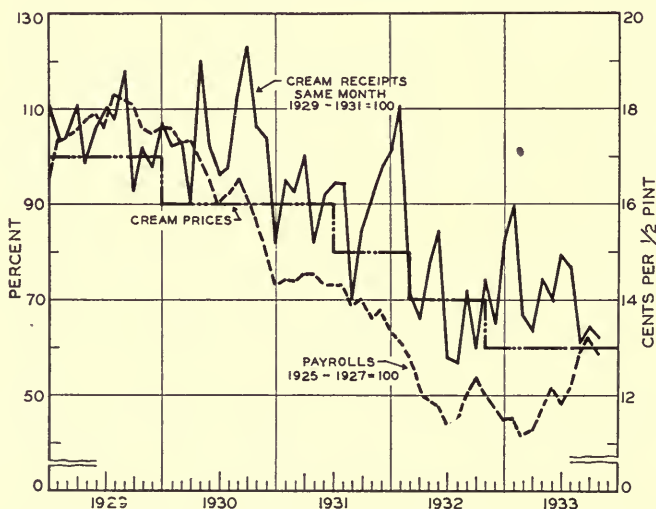


FIG. 19.—CREAM RECEIPTS, FACTORY PAYROLLS, AND RETAIL PRICES OF LIGHT CREAM AT THE PHILADELPHIA MARKET, BY MONTHS, 1929-1933

From 1930 to 1933 cream prices at Philadelphia were held high as compared with factory payrolls, and consequently consumers greatly reduced their purchases of cream.

cream are usually the same as the retail delivered prices for these products. In the minds of consumers, store milk in New York continued to be a bargain even tho incomes were half of what they had been.

Thru a series of reductions the retail price of milk at New York was reduced from 16 cents a quart in 1929 to 12 cents a quart in the latter part of 1932, and to 10 cents a quart in the early part of 1933 (Fig. 14 and Appendix Table 52). The retail price at Philadelphia was reduced thru a series of price reductions, from 14 cents a quart in the latter part of 1929 to 10 cents a quart in 1932, and to 9 cents a quart in the early part of 1933 (Fig. 15 and Appendix Table 53).

From July to December, 1932, the retail price of light cream at New York averaged 11.8 cents a half-pint, or about three-fifths of that for the same period in 1929 (Fig. 18 and Appendix Table 54). In Philadelphia the retail price of light cream during the latter part of 1932 averaged 13.7 cents a half-pint, or four-fifths of its average price for the same period in 1929 (Fig. 19 and Appendix Table 55). Thus from 1929 to 1932 the reduction in the retail price of light cream

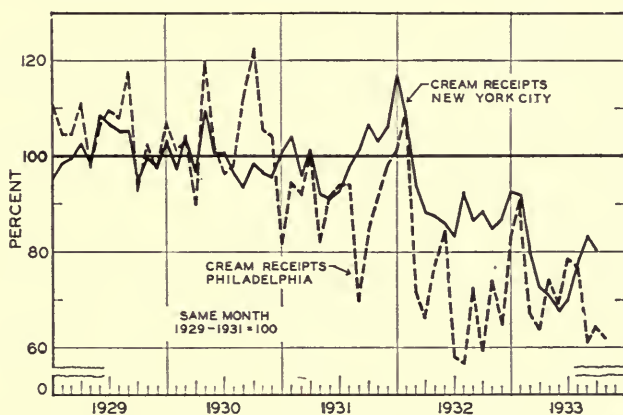


FIG. 20.—CREAM RECEIPTS AT NEW YORK AND PHILADELPHIA, BY MONTHS, 1929-1933

From 1930 to 1932 cream prices at New York were reduced more than at Philadelphia, primarily as a result of keen store competition at New York. In Philadelphia the usual store price of cream to consumers was the same as the retail delivered price. The result was that receipts at New York were sustained at a level much higher than at Philadelphia.

at New York was almost double that at Philadelphia. As stated, cream sales at Philadelphia declined more than twice as much as those at New York in this period (Fig. 20). The relatively small loss in cream sales at New York from 1929 to 1932 can be attributed primarily to the low cream prices which prevailed there during this

period. Retail prices of other sales units of cream were reduced in about the same proportions as the retail prices of light cream in both cities during this period.

"Why were retail cream prices reduced more in New York than in Philadelphia?" The best evidence indicates that keen store competition in New York was the principal factor which forced the greater reductions in the retail price of cream in this city from 1930 to 1933. Low-priced cream sold by independent store dealers forced the larger distributors to reduce cream prices in order to hold their sales. This was particularly true for the reduction of 15 to 12 cents a half-pint unit in July, 1931, and also for the reduction from 14 to 12 cents in May, 1932. It was also the principal factor in the early part of 1933, when the price for coffee cream in New York was reduced to 9 or 10 cents a half-pint unit, a price about half of that for the same months in 1929. As stated, in Philadelphia the usual store price to the consumer for both milk and cream has been maintained at the same price as the retail delivered price. Lack of store competition in this city made it possible to maintain higher cream prices than those which prevailed at New York, with the result that consumption was reduced more at Philadelphia.

The Situation in 1933.—Milk receipts at New York during the first half of 1933 averaged one percent more than those for the last half of 1932, following reductions first from 12 to 11 cents and then from 11 to 10 cents per retail quart. Without much question these price reductions prevented a large decline in milk receipts, which would have occurred coincident with the drastic decline in consumers' incomes at New York during this period had previous prices prevailed.

In June, 1933, the retail price was increased from 10 to 11 cents, and in August from 11 to 12 cents a quart by the State Milk Control Board. The index of milk receipts in July, 1933, was 5.3 percent lower than the average of that from January to June, 1933. In August, milk receipts increased sufficiently to offset the July reduction. Factory payrolls in New York City increased from an index of 44.0 in March, 1933, to an index of 58 in September, 1933, a total increase of 33 percent. Apparently this increase in purchasing power was sufficient to support the 20-percent increase in the retail price of milk which occurred in this period, without material loss of sales.

Milk receipts at Philadelphia during the first six months of 1933 averaged 3.9 percent higher than those for the latter half of 1932. This increase in consumption followed the reduction in retail price from 10 to 9 cents a quart, which became effective November, 1932. During July and August, 1933, milk receipts remained at about the same level as the average for the first six months, even tho the retail price was increased from 9 to 10 cents a quart in June and from 10 to 11 cents a quart in September. By September, 1933, factory payrolls in

Philadelphia were 29 percent higher than those of March. This increase in purchasing power apparently was sufficient to support the 22-percent increase in the retail price of milk without loss in sales.

Cream receipts at New York from January to June, 1933, averaged only 75.6 percent, or about three-fourths of those for the same months in 1929. The retail price for light cream ranged from 9 to 10 cents a half-pint from January to April, 1933. In May the State Milk Control Board fixed the prices of light cream at 11 to 12 cents a half-pint unit. From May to August, 1933, cream receipts at New York decreased 15 percent from those for January to April. The increase in cream prices undoubtedly was one cause for decreased cream sales during the summer months of 1933.

Cream receipts at Philadelphia from January to June, 1933, averaged 69.4 percent of those for the same months in 1929. This constituted a relative increase in receipts of 16.4 percent over those for the last six months of 1932. The retail price of light cream, which had been reduced to 13 cents a half-pint in November, 1932, was not increased during this period. An upward course for both payrolls and cream receipts at Philadelphia is shown from April to August, 1933.

Consumption of Milk and Cream in Boston

The movement of milk receipts at Boston fluctuated only slightly from August, 1929, to January, 1931 (Fig. 21 and Table 20). From January to July, 1931, the course of milk receipts in this city was upward. This followed the decrease in price from 15.5 cents a retail quart in December, 1930, to 13.5 cents in January, and to 12.5 cents in February, 1931. In 1930 factory payrolls in Massachusetts¹ averaged 79 percent of those in 1925-1927. The decline in payrolls in 1930 apparently had little effect upon sales of milk during that year.

With the exception of a slight increase in the summer of 1932, the movement of sales in Boston was downward from November, 1931, to April, 1933, when sales averaged 88.9 percent of those in the Aprils of 1930-1932. This decline in sales took place in spite of the drastic reductions in the retail price of milk. In January, 1931, the retail price was reduced from 13.5 to 12.5 cents a quart, and in December, 1931, to 10 cents a quart. The 10-cent price continued thru June, 1932. From July, 1932 to January, 1933, the retail price was maintained at 11 cents a quart. The underlying cause for loss in sales was the drastic decline in consumers' incomes which continued thru this period. Payrolls in July, 1932, fell to a low of only 34 percent of those in 1925-1927, or to less than two-thirds of those in November, 1931. A slight increase in payrolls in the late summer of 1932 was

¹Factory payrolls are not available for Boston. Since Boston is the largest city in Massachusetts, it is probable that the course of payrolls for this city has been very similar to that for the state.

TABLE 20.—MILK RECEIPTS AT BOSTON, BY MONTHS, AUGUST, 1929, TO NOVEMBER, 1933¹
(Thousands of 40-quart units)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1929.....	...	...	...	...	...	...	...	512	504	517	507	484	.....
1930.....	505	465	525	511	541	539	536	511	524	524	501	496	6 177
1931.....	500	468	540	525	560	554	573	560	529	544	526	539	6 416
1932.....	546	496	553	530	551	526	535	546	508	520	494	488	6 294
1933.....	489	431	480	464	500	490	501	495	476	475	467	...	.....

¹From monthly milk and cream reports, U. S. Bureau of Agricultural Economics.

TABLE 21.—INDEXES OF MILK RECEIPTS AT BOSTON, BY MONTHS, AUGUST, 1929, TO NOVEMBER, 1933
(Same month 1930-1932 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1929.....	...	...	...	...	...	...	...	95	97	98	100	95	...
1930.....	98	98	97	98	98	100	98	95	101	99	99	98	98
1931.....	97	98	100	101	102	103	105	104	102	103	104	106	102
1932.....	105	104 ¹	103	102	100	97	98	101	98	98	97	96	100
1933.....	95	91	89	89	91	91	91	92	92	90	92	...	...

¹Corrected to 28-day basis.

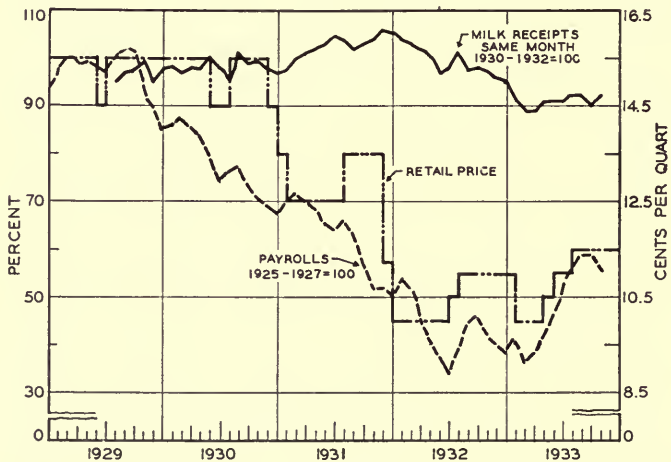


FIG. 21.—MASSACHUSETTS FACTORY PAYROLLS, AND MILK RECEIPTS AND RETAIL PRICES OF MILK AT THE BOSTON MARKET, AUGUST, 1929, TO NOVEMBER, 1933

The course of milk receipts at Boston was upward from 1929 to the latter part of 1931. Coincident with declining payrolls in 1932, sales in this market declined in spite of drastic reductions in retail prices.

followed by another decline, payrolls reaching an index of 36 in March, 1933.

From April to October, 1933, milk receipts at Boston averaged 90.7 percent of those for the corresponding months of 1930-1932. In June the retail price was increased to 11 cents a quart, and in September, 1933, to 12 cents a quart. September payrolls increased from an index of 36 in March to an index of 59 in September. This increase in purchasing power was apparently about sufficient to sustain the increased price of milk without further decline in sales.

From January, 1930, to December, 1931, there was little change in the course of cream receipts at Boston (Fig. 22 and Table 23). From an index of 103 in December, 1931, cream receipts at Boston fell to an index of 90 in May, 1932, following the sharp advances in cream prices in the latter part of 1931.

In April, 1932, prices of heavy cream were reduced from 18 to 15 cents a half-pint unit, and in June to two half-pints for 25 cents. From August to December, 1932, cream receipts at this market averaged 7 percent higher than in April and May, in spite of the drastic decline in factory payrolls during this period. In this situation, great losses in sales of cream in 1933 undoubtedly would have occurred in this market had cream prices been sustained at the level prevailing during the first half of 1932.

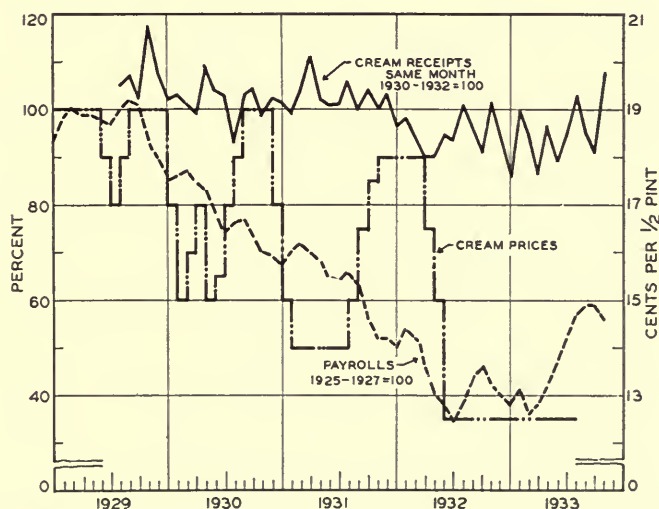


FIG. 22.—MASSACHUSETTS FACTORY PAYROLLS, AND CREAM RECEIPTS AND STORE PRICES OF HEAVY CREAM AT THE BOSTON MARKET, AUGUST, 1929, TO NOVEMBER, 1933

Cream receipts at Boston have been sustained at a relatively high level in the past four years primarily as the result of low prices to consumers.

TABLE 22.—CREAM RECEIPTS AT BOSTON, BY MONTHS,
AUGUST, 1929, TO NOVEMBER, 1933¹
(Number of 40-quart units)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1929	.....	.....	.....	.....	.....	.....	.....	56 541	49 779	43 717	42 681	43 326	.....
1930	41 905	39 496	45 938	49 349	66 990	63 766	54 978	49 973	48 175	44 729	36 029	41 118	582 446
1931	41 580	37 884	47 074	55 458	62 619	61 642	55 344	56 739	46 937	44 633	36 644	41 556	588 110
1932	40 012	37 870	42 818	44 807	55 335	57 903	50 398	54 405	44 891	39 069	36 678	37 954	542 140
1933	35 549	38 263	42 651	42 761	59 627	54 262	50 667	55 115	44 159	39 141	38 865	.....	.....

¹From monthly milk and cream reports, U. S. Bureau of Agricultural Economics.

TABLE 23.—INDEXES OF CREAM RECEIPTS AT BOSTON, BY MONTHS,
AUGUST, 1929, TO NOVEMBER, 1933
(Same month 1930-1932 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1929.....	...	...	...	...	...	...	...	105	107	102	117	108	...
1930.....	102	103	101	99	109	104	103	93	103	104	99	102	102
1931.....	101	99	104	111	102	101	103	106	100	104	101	103	103
1932.....	97	98 ¹	94	90	90	95	94	101	96	91	101	94	95
1933.....	86	100	94	86	97	89	95	103	95	91	107	...	...

¹Corrected to 28-day basis.

INFLUENCE OF STORE SALES ON PER-CAPITA CONSUMPTION OF MILK

In the fluid-milk industry one school of thought holds that the sale of milk at stores, even at a price considerably lower than the retail delivered price, will tend to result in lower per-capita consumption of this product. This theory is based upon the supposition that if milk is delivered daily at the door there will be less tendency to reduce the use of it some days or to go without it on an occasional day than there would be if milk were purchased from stores, since it is assumed that stores are closed on Sundays and holidays.

The other school of thought maintains that if stores, as a result of no delivery costs and no losses from bad debts, not only can sell milk at prices below retail wagon prices, but also can furnish cold milk to consumers in the poorer districts who have no refrigeration service, these factors will result in a higher per-capita consumption.

Since these theories are diametrically opposed, only one of them can be true in any given market. A careful analysis of available data on milk sales shows no evidence which would substantiate the theory that low-priced milk at stores reduces the per-capita consumption of

milk. On the contrary, evidence indicates that milk sold in stores at prices below the wagon prices, tends to result in a greater per-capita consumption.

According to data collected by Ross for the New York market, 45.6 percent, or not quite half, of the total sales of milk in February, 1927, were bottled and bulk sales to stores and restaurants in that city.¹ About one-third of the total sales of milk for household uses in New York at this time were made at stores and probably in recent years this proportion has increased. As stated, the price for bulk milk at stores in New York during recent years has ranged from 4 to 6 or 7 cents a quart less than the retail delivered price. It is generally conceded that the sale of dipped milk is not a desirable practice. An ordinance prohibiting this practice became effective at New York in June, 1933.

In 1921 store sales of milk in the Boston metropolitan area were negligible. By the early part of 1932, according to Bronson,² they had increased to 38 percent of the total milk sales in this market. By 1933 they constituted nearly half the total sales of milk in this market.

From 1922 to 1925 the differential between store and retail delivered prices was usually larger than 2½ cents. For the greater part of the time from 1925 to 1931 the store price to consumers for pasteurized bottled milk at Boston was 2½ cents a quart lower than the retail delivered price (Fig. 23 and Table 24). From January to October, 1932, this differential was held to 2 cents a quart, altho in some cases the cutting of the retail delivered price narrowed this to only one cent.

Per-capita sales of milk in New York and Boston, where store sales have constituted an important part of the total sales of milk for a longer period than in any other large cities, instead of being lower, have been higher, than those in any other large markets in the country for which sales data are available (Figs. 11 and 24). From 1929 to 1932 the daily consumption of milk at New York averaged .778 pint per person (Table 25), while at Boston from 1930-1932 it averaged .849 pint per person (Table 26).

In Philadelphia, where store sales have been only a small fraction of total milk sales, the daily consumption of milk from 1929 to 1932 averaged .607 pint per person. Thus the per-capita consumption of milk at New York has averaged 28.2 percent higher, and that at Boston 39.9 percent higher, than that at Philadelphia during a comparable period (Fig. 25) even tho the course of consumers' incomes at Philadelphia has been about the same as that at New York and Boston.

¹N.Y. (Cornell) Agr. Exp. Sta. Bul. 459, July, 1927, p. 7, Table 3.

²Bronson, W. H. Effect of Chain Store Policies on Producer Milk Prices. Cooperative Marketing Journal, March-April, 1932, pp. 75-80.

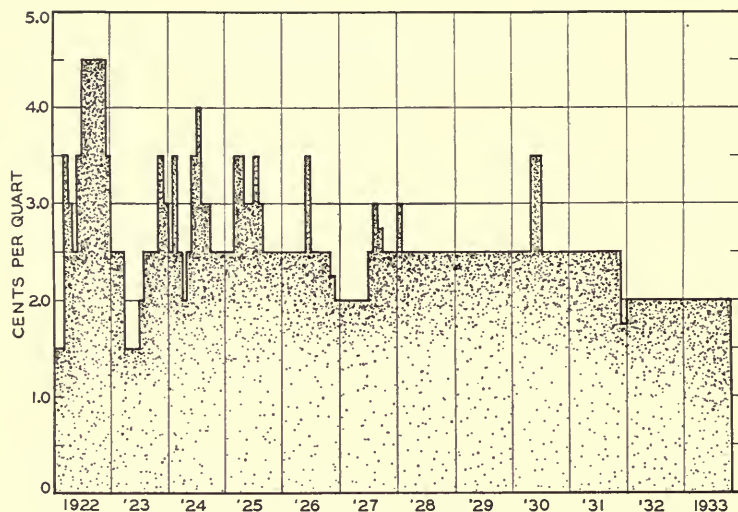


FIG. 23.—SPREAD BETWEEN RETAIL WAGON PRICES OF MILK AND STORE PRICES AT BOSTON, BY MONTHS, 1922-1933

In 1922 stores at Boston sold milk at prices that averaged $3\frac{1}{2}$ cents a quart below the retail wagon price. This spread was gradually reduced until in 1932 it was only 2 cents a quart. Retail wagon prices have been established at a level much lower than the level in effect before the advent of store competition in this market.

TABLE 24.—AMOUNTS THAT RETAIL DELIVERED PRICES EXCEEDED STORE MILK PRICES IN BOSTON, 1922-1933¹
(Cents per quart)

Month	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
January.....	1.5	2.5	2.5	2.5	2.5	2	3.0	2.5	2.5	2.5	2	2
February.....	1.5	2.5	3.5	2.5	2.5	2	2.5	2.5	2.5	2.5	2	2
March.....	3.5	2.5	2.5	3.5	2.5	2	2.5	2.5	2.5	2.5	2	2
April.....	3.0	1.5	2.0	3.5	2.5	2	2.5	2.5	2.5	2.5	2	2
May.....	2.5	1.5	2-3	3.0	2.5	2	2.5	2.5	2.5-4.5-2.5	2.5	2	2
June.....	3.5	1.5	3-4	3.0	3.5	2	2.5	2.5	4.5-2.5	2.5	2	2
July.....	4.5	2.0	4.5-3.5	4-3	2.5	2-3	2.5	2.5	2.5	2.5	2	2
August.....	4.5	2.5	3.5-2.5	3.5-2.5	2.5	3	2.5	2.5	2.5	2.5	2	2
September....	4.5	2.5	3.5-2.5	2.5	2.5	3-2.5	2.5	2.5	2.5	2.5	2	2
October.....	4.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2	2
November....	4.5	3.5	2.5	2.5	2.5-2	2.5	2.5	2.5	2.5	2.5	2	..
December....	3.5	3.0	2.5	2.5	2	2.5	2.5	2.5	2.5	2.5-1-2	2	..
Average.....	3.5	2.33	2.75	2.875	2.5	2.3	2.5	2.5	2.6	2.5	2	..

¹Data obtained thru the courtesy of the New England Milk Producers Association.

TABLE 25.—DAILY PER-CAPITA CONSUMPTION OF MILK AND CREAM AND THEIR MILK EQUIVALENT AT NEW YORK AND PHILADELPHIA, 1929-1932

Year	Milk receipts ¹	Cream receipts ¹	Milk equivalent of milk and cream ²	Population of metropolitan area ³	Daily per-capita consumption		
					Milk	Milk equivalent ⁴	
						Cream	Milk and cream
<i>New York</i>	<i>(thousands of 40-quart units)</i>				<i>pints</i>	<i>pints</i>	<i>pints</i>
1929.....	35 099	2 328.8	55 309	9 843 600	.782	.450	1.232
1930.....	35 766	2 285.4	55 538	9 930 000	.789	.437	1.226
1931.....	36 009	2 261.5	55 794	10 016 400	.788	.433	1.221
1932.....	34 949	2 076.4	53 705	10 102 700	.756	.406	1.162
Average.....	.....	.....	.....	.....	.778	.432	1.210
<i>Philadelphia</i>							
1929.....	7 435.1	394.85	11 384	2 581 500	.631	.336	.967
1930.....	7 395.3	393.03	11 326	2 600 000	.623	.332	.955
1931.....	7 243.7	333.87	10 582	2 618 500	.606	.279	.885
1932.....	6 838.1	273.28	9 571	2 637 100	.567	.226	.793
Average.....	.....	.....	.....	.....	.607	.293	.900

¹See Appendix Tables 44, 46, 48, and 50. ²Cream is converted to milk equivalent on the basis of 10 cans of cream to 1 can of milk, and plain condensed milk on the basis of 3 cans of condensed milk to 1 of whole milk for New York, which includes monthly shipments of plain condensed milk. Plain condensed milk constituted 6.4 percent of the milk equivalent of cream and condensed milk for 1929-1932. These data are not adjusted for changes in amount of cream stored. ³The 1930 population was taken from the U. S. Census of the metropolitan area, which constitutes the market for milk and cream receipts at New York and Philadelphia. According to estimates of the U. S. Bureau of Census, population in the United States increased only 44.2 percent as rapidly during the latter part of the decade 1920-1930 as it did for the decade as a whole. Hence the population of New York and Philadelphia for years other than 1930 was interpolated on the basis of 44.2 percent of the average annual increase in population from 1920 to 1930 in these respective metropolitan areas. ⁴The milk equivalent of plain condensed milk for 1929-1932 constituted 2.1 percent of the total milk equivalent of receipts at New York. Plain condensed milk was not included in the cream or total milk equivalent of milk and cream for Philadelphia.

TABLE 26.—DAILY PER-CAPITA CONSUMPTION OF MILK AND CREAM AT BOSTON, 1930-1932

Year	Milk receipts ¹	Cream receipts ¹	Milk equivalent of milk and cream ²	Population of metropolitan area ³	Daily per-capita consumption		
					Milk	Milk equivalent	
						Cream	Total milk and cream
	(thousands of 40-quart units)			pints	pints	pints	
1930.....	6 176.9	582.45	12 001.4	1 602 000	.845	.797	1.642
1931.....	6 416.0	588.11	12 297.1	1 623 400	.866	.794	1.660
1932.....	6 294.3	542.00	11 714.3	1 644 800	.836	.720	1.556
Average.....	.....	.....	.....	.....	.849	.770	1.619

¹See Tables 20 and 22. ²Cream converted to milk equivalent on the basis of 10 cans of cream to 1 can of milk. ³The 1930 population, as taken from the U. S. Census of the metropolitan area covered by the milk and cream report of the U. S. Bureau of Agricultural Economics. Population for 1931 to 1932 is interpolated on the basis of 44.2 percent of the average annual increase in the Boston metropolitan area from 1920 to 1930. See footnote 3 to Table 25 for further explanation.

In other words, in so far as conditions in these cities in northeastern United States are typical of the country as a whole, the evidence tends clearly to disprove the theory that distribution of milk thru stores tends to lower the per-capita consumption of this product. On the contrary at least part of the higher per-capita consumption of milk at both New York and Boston can be attributed directly to the low prices at which milk could be obtained from stores in these cities during this period.

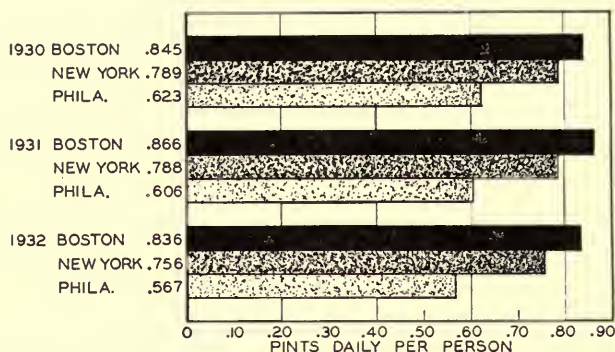


FIG. 24.—AVERAGE DAILY PER-CAPITA CONSUMPTION OF MILK AT BOSTON, NEW YORK, AND PHILADELPHIA, 1930-1932

Boston and New York, the two large city markets having the highest proportion of store sales, each have a higher per-capita consumption of milk than any other large city for which market sales data are available. Keen store competition in these markets has resulted in lower prices to consumers than have prevailed in markets that have lacked this competitive force.

Records since 1929 in seven markets indicate that losses in per-capita sales of milk have been less in markets having a large proportion of store sales than in those where store distribution plays only a small part. Thus, as stated, the 1932 per-capita sales in Boston averaged 98.9 percent of those in 1929; in New York, 96.7 percent of those in 1929; in San Francisco, 93.9 percent of those in 1929; and in the Alameda county markets, per-capita sales were 96.1 percent of those in 1929 (Fig. 11 and Tables 11 and 27). In each of these cities losses in total sales were less than the average for the country as a whole.¹ Keen store competition in these markets has resulted in lower prices to consumers than would have prevailed without this competitive force.

The 1932 per-capita sales of milk in Philadelphia averaged 90 percent of those in 1929; in Peoria, the 1932 per-capita sales of milk and milk equivalent of table cream averaged 89.3 percent of those in 1931; and in Rochester, where store sales constitute only about one-sixth of the total sales of milk, the 1932 sales averaged 88.5 percent

¹See page 424.

of the 1931 sales. Store sales comprize only a small part of the total sales of milk or cream in Peoria. The absence of store competition in Philadelphia and Peoria resulted in relatively high prices and greater declines in per-capita consumption in those markets.

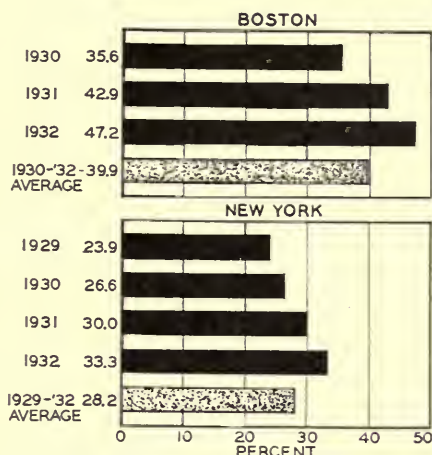


FIG. 25.—AMOUNT THAT DAILY PER-CAPITA CONSUMPTION OF MILK AT BOSTON AND NEW YORK EXCEEDED THAT AT PHILADELPHIA

During the past few years the per-capita consumption of milk at Boston and New York has increased in relation to that at Philadelphia. The store competition that has existed at Boston and New York has been a powerful force in bringing about reductions in milk prices corresponding to reductions in consumer incomes in these markets during this period.

Cream sales, in the few cities for which data are available, also declined less in the markets having a large proportion of store sales. The 1932 per-capita sales of cream in Boston averaged 90.3 percent of those in 1930, and in New York, 90.2 percent of those in 1929. The 1932 per-capita sales of cream in Philadelphia averaged 67.3 percent of those in 1929, and in Rochester, 88 percent of those in 1931 (Table 11).

Under existing conditions of relatively low payrolls, keen competition, and a large variety of low-priced foods, it is reasonable to expect that low-priced store milk and cream in a given market will tend to bring about a higher per-capita consumption, altho evidence from a large number of markets will be necessary to establish this assumption conclusively. There is no evidence generally available which indicates that sales of low-priced milk and cream at stores has tended to reduce the per-capita consumption of these products.

TABLE 27.—DAILY PER-CAPITA CONSUMPTION OF MILK IN ALAMEDA AND SAN FRANCISCO COUNTIES, CALIFORNIA, 1929-1932¹

Year	Alameda county			San Francisco county		
	Population	Milk consumption		Population	Milk consumption	
		Total thousands of gallons	Pints per capita daily		Total thousands of gallons	Pints per capita daily
1929.....	469 106	12 057	.563	628 749	16 077	.560
1930.....	474 883	12 322	.569	634 394	15 051	.520
1931.....	480 660	12 329	.562	640 039	15 721	.538
1932.....	486 437	12 000	.541	645 684	15 528	.526
Average.....	.....	.....	.556	.....	.....	.536

¹Calif. Agr. Exp. Sta. Bul. 534, p. 15, Table 2, 1932. Data for 1931 and 1932 obtained thru courtesy of J. M. Tinley, University of California, in letter of August 29, 1933. Population for years other than 1930 is interpolated on the basis of 44.2 percent of the average annual increase in population in these respective areas for 1920-1930. See footnote 3 to Table 25 for further explanation.

OTHER FOODS AS COMPETITORS OF MILK

Effect of Unequal Price Declines

Retail prices for foods competing with milk in the United States declined more rapidly from 1929 to 1933 than did the retail prices of milk during this period (Fig. 26). This was a basic factor causing the decline in the consumption of milk. In 1931 the average retail price of 42 foods was 77 percent of that for 1925-1927 (Table 28), while the retail price of milk was 88 percent of this base period (Table 30). For 1932 the retail price of milk was 78 percent of that for 1925-1927. The index of retail prices of all foods¹ in 1932 had declined to 65, or to a point 17 percent lower than the index of retail milk prices. With this situation some consumers reduced their purchases of milk, while a small part of the total number ceased to buy any milk.

The extent of the disparity between retail prices of milk and of all foods has varied widely in different markets. In 1932 retail prices of milk were relatively higher than the retail prices of all foods in each of the 39 cities shown in Table 31. In Cleveland, however, in 1932 the retail price of milk was only 1.6 percent higher relatively than the average prices of all foods, while in Washington, D.C., it was 41 percent higher than the average of retail food prices. In 22 cities the relative retail prices of milk in 1932 were higher, in fifteen cities lower, and in two cities, the same, as the average for the United States.

¹In this discussion the average retail price of "42 foods" is used synonymously with the average retail price of "all foods."

In 1932 the average retail prices in the United States of bacon, eggs, butter, oleomargarine, potatoes, canned corn, coffee, and oranges were lower than the average of all foods (Table 32). On the other hand, the average retail prices of round steak, milk, cabbage, canned tomatoes, bread, canned peas, sugar, and evaporated milk were higher than retail prices for all foods. The extent of the price variations

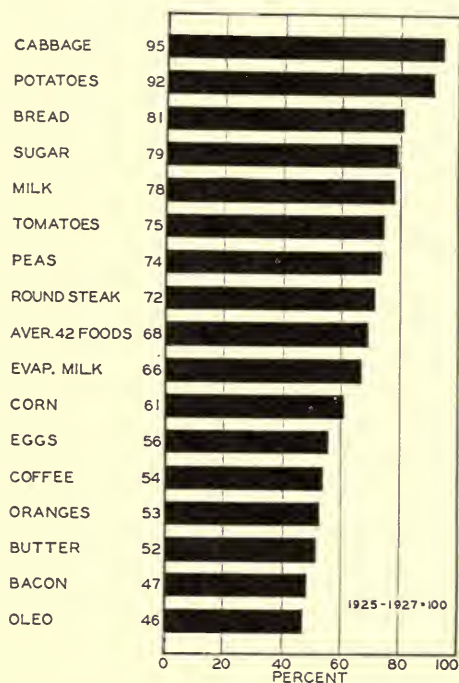


FIG. 26.—INDEXES OF THE AVERAGE RETAIL PRICES OF SIXTEEN ARTICLES OF FOOD AND OF ALL FOODS IN 51 CITIES IN THE UNITED STATES IN AUGUST, 1933

Relative retail prices of foods vary widely. The retail wagon prices of milk during recent years have been relatively high compared with prices of many other foods.

was of course, slightly different in different markets. Thus the index of the average retail prices of all foods in Chicago was 66 and in Peoria 63, while the average for the United States was 65.

When prices rise, prices of some commodities rise much faster than do those for others. Thus in August, 1933, the retail prices of bread, potatoes, cabbage, canned tomatoes, and sugar were more than 10 percent higher than average prices for these same products from January to June, 1933. Retail prices in August for round steak, bacon, milk, evaporated milk, butter, oleomargarine, eggs, canned corn and

TABLE 28.—INDEXES OF AVERAGE RETAIL PRICES OF 42 FOODS IN THE UNITED STATES, BY MONTHS, 1925 TO 1933¹
(Same month 1925-1927 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925.....	97	97	98	97	97	98	102	103	101	102	103	103	100
1926.....	103	103	103	104	103	101	100	100	101	100	100	100	102
1927.....	100	100	99	99	99	100	98	98	98	98	97	97	98
1928.....	97	97	98	98	98	97	97	98	100	98	97	97	98
1929.....	97	99	99	97	98	98	101	103	102	101	99	98	99
1930.....	98	98	97	97	96	94	92	92	93	91	87	85	93
1931.....	83	81	82	80	78	75	76	77	76	75	72	71	77
1932.....	69	67	68	67	65	64	64	64	64	63	62	61	65
1933.....	60	58	58	58	60	61	67	68	68	67	66	..	..

¹From current reports of U. S. Bureau of Labor Statistics.

TABLE 29.—AVERAGE RETAIL PRICES OF MILK IN THE UNITED STATES, BY MONTHS, 1925-1933¹
(Cents per quart)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
Average 1925-1927..	14.07	14.06	13.96	13.90	13.83	13.80	13.87	13.97	14.10	14.17	14.20	14.27	14.03
1925.....	13.9	13.9	13.8	13.8	13.7	13.7	13.8	13.9	14.2	14.3	14.3	14.3	14.0
1926.....	14.2	14.2	14.0	13.9	13.9	13.8	13.8	13.9	14.0	14.0	14.1	14.2	14.0
1927.....	14.1	14.1	14.1	14.0	13.9	13.9	14.0	14.1	14.1	14.2	14.2	14.3	14.1
1928.....	14.3	14.3	14.2	14.1	14.1	14.0	14.1	14.1	14.2	14.2	14.3	14.3	14.2
1929.....	14.3	14.3	14.3	14.2	14.2	14.2	14.3	14.3	14.3	14.4	14.4	14.4	14.3
1930.....	14.2	14.1	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	13.5	14.0
1931.....	13.3	13.0	12.9	12.6	12.3	12.0	12.1	12.1	12.1	12.0	12.0	11.6	12.3
1932.....	11.5	11.4	11.3	11.0	10.8	10.8	10.7	10.5	10.6	10.7	10.6	10.4	10.9
1933.....	10.4	10.3	10.1	10.1	10.0	10.2	10.4	10.9	11.0	11.1	11.1	....	....

¹From current reports of U. S. Bureau of Labor Statistics.

TABLE 30.—INDEXES OF AVERAGE RETAIL PRICES OF MILK IN THE UNITED STATES, BY MONTHS, 1925-1933
(Same month 1925-1927 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925.....	99	99	99	99	99	99	99	99	101	101	101	100	100
1926.....	101	101	100	100	100	100	99	99	99	99	99	99	100
1927.....	100	100	101	101	100	101	101	101	100	100	100	100	100
1928.....	102	102	102	101	102	101	102	101	101	100	101	100	101
1929.....	102	102	102	102	103	103	103	102	101	102	101	101	102
1930.....	101	100	100	101	101	101	101	100	99	99	98	95	100
1931.....	94	92	92	91	89	87	87	87	86	85	84	81	88
1932.....	82	81	81	79	78	78	77	75	75	75	75	73	78
1933.....	74	73	72	73	72	74	75	78	81	78	78	78	75

TABLE 31.—INDEXES OF RETAIL MILK PRICES AND OF AVERAGE RETAIL PRICES OF ALL FOODS IN 39 CITIES OF THE UNITED STATES, 1932 AND 1933¹
(1925-1927 = 100)

City	Indexes of 1932 prices		Indexes of 1933 retail milk prices				Indexes of 1933 retail prices of all foods			
	Milk	All foods	Jan.-March	April-June	July-Sept.	Oct.	Jan.-March	April-June	July-Aug.	Oct.
United States.....	78	65	71	71	78	78	59	59	67	69
Atlanta.....	73	62	66	66	71	71	55	56	64	65
Baltimore.....	84	64	82	74	74	82	58	59	66	69
Birmingham.....	76	61	71	71	71	76	55	57	62	63
Boston.....	75	65	68	68	81	81	59	59	68	68
Buffalo.....	72	65	75	75	83	83	58	59	69	69
Charleston, S. C.....	84	66	65	71	71	71	58	58	66	67
Chicago.....	80	66	64	71	71	71	57	59	67	66
Cincinnati.....	83	64	79	79	71	87	58	59	67	68
Cleveland.....	63	62	57	57	71	71	55	56	67	67
Dallas.....	68	63	66	66	66	66	56	58	66	66
Denver.....	86	67	85	85	85	85	62	64	71	71
Detroit.....	66	58	64	64	64	71	53	54	65	65
Fall River.....	85	65	85	78	85	85	58	58	68	69
Indianapolis.....	81	64	76	68	76	76	56	57	68	66
Jacksonville.....	65	61	62	62	62	67	54	55	63	64
Kansas City.....	78	65	77	77	77	77	60	61	68	67
Little Rock.....	66	61	66	66	73	79	54	55	63	64
Los Angeles.....	71	64	73	60	73	80	61	59	67	69
Louisville.....	80	62	79	79	87	88	56	59	68	67
Manchester.....	76	66	73	73	80	80	60	61	71	70
Memphis.....	74	64	66	66	66	73	56	57	66	67
Milwaukee.....	78	66	75	75	85	85	60	62	70	68
Minneapolis.....	72	65	54	54	71	71	57	58	71	69
Newark.....	79	70	66	66	79	79	62	61	69	72
New Haven.....	80	70	70	70	82	89	61	62	71	72
New Orleans.....	77	67	72	72	87	87	60	60	68	68
New York.....	79	68	66	73	80	80	61	62	69	72
Omaha.....	75	62	62	71	79	80	54	57	65	65
Philadelphia.....	81	66	72	73	81	89	58	59	67	69
Pittsburg.....	68	63	63	63	70	70	55	57	65	66
Portland, Ore.....	85	68	83	74	74	74	62	62	68	68
Providence.....	80	65	82	82	82	89	60	60	69	69
Richmond.....	86	63	79	86	79	79	57	57	65	67
St. Louis.....	78	64	77	77	77	77	57	62	69	67
Salt Lake City.....	82	65	82	82	82	82	58	61	67	67
San Francisco.....	85	70	86	79	79	79	65	66	71	71
Scranton.....	91	67	83	83	91	91	60	61	69	70
Seattle.....	80	69	74	82	82	82	62	67	71	70
Washington, D. C.....	92	65	89	89	82	89	60	60	67	69

¹From current reports of U. S. Bureau of Labor Statistics.

peas, coffee, and oranges increased less than 10 per cent during this period.

Retail prices of 42 foods in the United States in August, 1933, were 18 percent higher than those for April, the lowest month for 1933. During the same period retail prices of milk advanced only 8 percent. Part of the disparity between milk prices and those for other foods has disappeared. This situation is favorable for regaining at least part of the sales of milk which have been lost.

In Chicago the retail price of milk was reduced from 14 to 13 cents a quart in January, 1931, and was held at that price until January, 1932 (Fig. 27 and Table 33). During this same period the retail price index of all foods in Chicago declined 18 percent (Table 34).

TABLE 32.—INDEXES OF RETAIL PRICES OF SPECIFIC FOODS AND OF ALL FOODS IN CHICAGO, PEORIA, AND UNITED STATES, 1932, AND SELECTED MONTHS, 1933¹

	1932 (1925-1927 = 100)			1933 (Same month 1925-1927 = 100)								
				United States			Chicago			Peoria		
	United States	Chicago	Peoria	Aver. Jan.-June	July	Aug.	Aver. Jan.-June	July	Aug.	Aver. Jan.-June	July	Aug.
Round steak.....	81	79	79	70	81	72	67	73	66	64	73	72
Bacon.....	50	53	48	45	47	47	48	49	50	41	41	42
Milk.....	78	80	82	73	75	78	67	71	71	82	82	82
Evaporated milk.....	67	67	63	61	66	66	65	69	71	64	67	67
Butter.....	50	51	50	49	60	52	51	62	53	50	60	50
Oleomargarine.....	51	54	48	43	45	46	49	52	53	42	44	45
Eggs.....	56	56	53	51	58	56	53	58	55	45	51	51
Bread.....	73	76	68	68	77	81	62	67	69	63	76	77
Potatoes.....	42	45	38	40	85	92	41	93	103	40	88	109
Cabbage.....	74	77	75	63	86	95	67	98	114	68	99	132
Corn, No. 2 can.....	64	64	64	59	59	61	58	59	60	62	61	65
Peas, No. 2 can.....	73	73	66	72	73	74	71	72	75	64	68	71
Tomatoes, No. 2 can.....	74	71	68	68	73	75	67	68	74	66	66	72
Sugar.....	72	76	68	71	77	79	74	82	84	67	72	75
Coffee.....	60	61	64	54	54	54	56	55	54	56	56	56
Oranges.....	59	57	58	53	53	53	56	53	54	51	51	58
All foods.....	65	66	63	59	67	68	59	67	68	57	63	64

¹From current reports of U. S. Bureau of Labor Statistics.

TABLE 33.—RETAIL PRICES PER QUART OF MILK AND INDEXES OF THESE PRICES AT CHICAGO, 1925-1933

Period	Cents per quart ¹	Indexes of retail milk prices (1925-1927 = 100)
January, 1925, to December, 1930.....	14	100
January to December, 1931.....	13	93
January to April, 1932.....	12	86
May to November, 1932.....	11	79
December, 1932, to April, 1933.....	9	64
May to October, 1933.....	10	71
November to December, 1933.....	11	79

¹From current reports of U. S. Bureau of Labor Statistics.

This resulted in a wide disparity between the price of milk and prices of other foods. By January, 1933, thru a series of reductions the retail price of milk in Chicago was reduced to 9 cents a quart. The retail prices of all foods in Chicago in January, 1933, were 58 percent of those for January, 1925-1927, while the retail price of milk was 64 percent.

From March to August, 1933, the retail prices of all foods in Chicago increased 19 percent, while the retail price of milk increased one cent a quart, or 11 percent. This greater advance in the retail prices of all foods in Chicago nearly removed the disparity that had existed between these prices and milk prices since 1930.

Sales of milk and table cream in Peoria declined 11.6 percent from August, 1930, to March, 1931. This reduction in sales was primarily the result of the lower prices for competing foods that prevailed during this period (Fig. 13 and Tables 35 and 36).

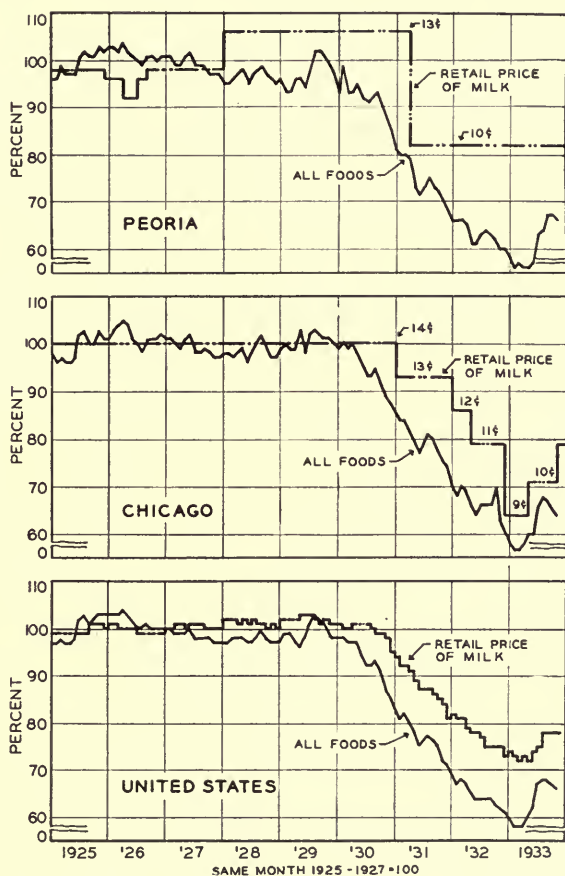


FIG. 27.—AVERAGE RETAIL PRICES OF 42 FOODS AND OF MILK, IN THE UNITED STATES, CHICAGO, AND PEORIA, BY MONTHS, 1925-1933

During these years the retail prices of all foods declined much more rapidly than did the retail prices of milk.

Thus while the retail price of milk in the Peoria market was held at 13 cents a quart from January, 1927, to April, 1931, the retail prices of 42 foods in this market declined to 79 percent, or to about four-fifths of those for April, 1925-1927. From April to August, 1931, average retail prices of all foods in Peoria averaged about 6 percent higher than the retail price of milk. Since milk was relatively low-

TABLE 34.—INDEXES OF AVERAGE RETAIL PRICES OF 42 FOODS IN CHICAGO, BY MONTHS, 1925-1933¹
(Same month 1925-1927 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925.....	98	96	97	96	96	97	102	103	100	100	103	101	99
1926.....	101	103	104	105	104	101	100	98	101	101	101	102	102
1927.....	101	101	100	99	101	102	98	98	99	98	97	97	99
1928.....	98	98	97	98	99	96	98	100	102	99	98	97	98
1929.....	* 98	100	99	99	103	98	102	103	102	101	101	100	100
1930.....	99	100	99	100	98	95	93	93	95	92	89	87	95
1931.....	85	84	83	82	80	77	79	81	80	78	75	74	80
1932.....	70	68	70	69	66	64	66	66	66	65	63	60	66
1933.....	58	57	57	58	60	60	67	68	67	65	64	..	..

¹From current reports of U. S. Bureau of Labor Statistics.

TABLE 35.—AVERAGE RETAIL PRICES PER QUART OF MILK, AND INDEXES OF THESE PRICES AT PEORIA, 1925-1933

Period	Cents per quart ¹	Indexes of retail milk prices (1925-1927 = 100)
January to November, 1925.....	12.0	98
December, 1925, to March, 1926.....	11.7	96
April to June, 1926.....	11.3	92
July to August, 1926.....	11.7	96
September to December, 1926.....	12.0	98
January, 1927, to March, 1931.....	13.0	106
April, 1931 to December, 1933.....	10.0	82

¹From current reports of U. S. Bureau of Labor Statistics.

TABLE 36.—INDEXES OF AVERAGE RETAIL PRICES OF 42 FOODS IN PEORIA, BY MONTHS, 1925-1933¹
(Same month 1925-1927 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925.....	96	96	99	97	97	97	101	102	101	101	103	102	99
1926.....	103	103	102	104	102	101	100	99	101	101	100	101	101
1927.....	101	101	99	99	101	102	99	99	99	97	97	97	99
1928.....	95	95	96	97	98	95	97	98	99	97	96	95	97
1929.....	96	98	98	96	96	94	98	102	102	101	99	97	98
1930.....	98	99	98	98	95	93	91	92	93	91	88	85	94
1931.....	81	80	80	79	73	71	73	75	73	72	70	68	75
1932.....	66	66	66	65	61	61	63	64	63	62	60	60	63
1933.....	58	56	57	56	55	58	63	64	67	67	66	..	..

¹Percent changes in the retail prices of all foods obtained from current reports of U. S. Bureau of Labor Statistics. Indexes were compiled from these data.

priced, the dealers' intensive campaign to increase sales at that time met with a favorable response from consumers. By 1932, however, the retail price of all foods in Peoria had declined to an average of 63 percent of those for 1925-1927, which was relatively 23 percent lower than the retail price of milk. With this disparity the 1932 sales

of milk and table cream in Peoria declined to 91.8 percent of those for 1931, a drop of 8.2 percent. During this period some consumers in this market were reducing their purchases of milk and cream while others ceased to buy fresh milk.

Food Competition Intensified by Declining Payrolls

The aggregate number of dollars which consumers can spend for food and other goods and services depends primarily upon the incomes which they receive. Drastic reductions in these incomes have forced reductions in retail food prices, both for the United States as a whole and for the different cities within the country.

Thus factory payrolls in the United States declined from an index of 98 in March, 1930, to an index of 37 in March, 1933, a total reduction of 63 percent in the three-year period (Fig. 28).

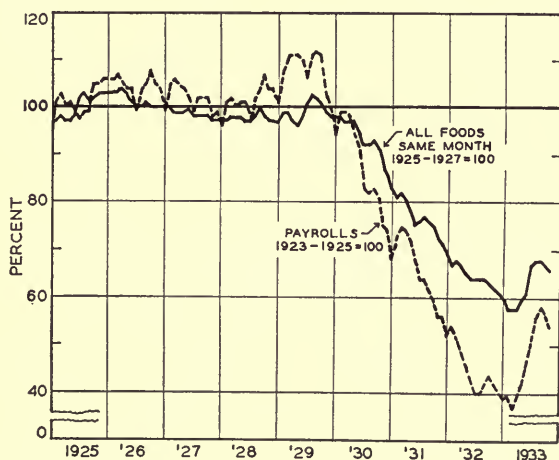


FIG. 28.—AVERAGE RETAIL PRICES OF 42 FOODS AND VOLUME OF FACTORY PAYROLLS IN THE UNITED STATES, BY MONTHS, 1925-1933

Payrolls in the United States declined much more rapidly from 1929 to 1933 than did retail food prices. While unemployment relief funds have absorbed a part of this difference, lower incomes to masses of consumers have meant a lower standard of living.

Retail prices of all foods in the United States declined from an index of 97 in March, 1930, to 58 in March, 1933 (Table 28). In other words, with the payrolls in March, 1933, consumers could buy only two-thirds as much food as they could with the payrolls three years earlier. The disparity between payrolls and retail food prices was due primarily to inflexibility in costs of retail distribution, since changes in farm incomes from foods corresponded closely to changes in industrial incomes during this period.

As consumer incomes and retail prices of foods rise, distribution costs will tend to rise more slowly than the farm price for foods, and the wide disparity between payrolls and retail food prices will tend to disappear. Part of the gap in payrolls and retail food prices is now being filled with funds for unemployment relief.

In general, retail food prices in different cities follow each other closely tho consumer incomes may vary widely. This is because of the intense retail competition in the sale of foods, combined with the large volume of foods available for sale. Individual attempts on the part

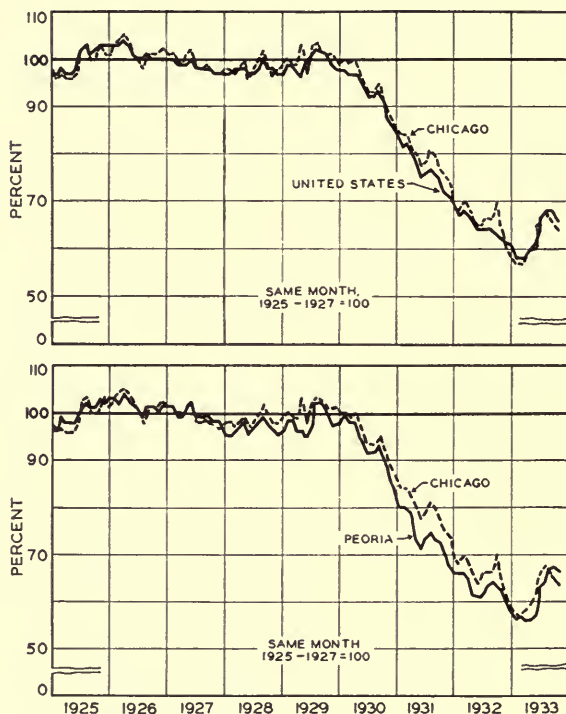


FIG. 29.—AVERAGE RETAIL PRICES OF 42 FOODS IN THE UNITED STATES AND CHICAGO, AND IN PEORIA AND CHICAGO, BY MONTHS, 1925-1933

Because competition in retail distribution of foods is exceedingly keen, retail food prices tend to change simultaneously in different cities and in the country as a whole.

of food retailers to maintain prices much higher than those of their competitors would be disastrous for them. The close correspondence between the movement of retail food prices in Chicago and Peoria and in Chicago and the United States are shown in Fig. 29.

Factory payrolls in Chicago in 1932 averaged 35 percent of those

for December, 1928; in Peoria, 56 percent; and in the United States, 43 percent. Peoria payrolls in 1932 were thus considerably higher than those for Chicago or for the United States (Figs. 28 and 30).

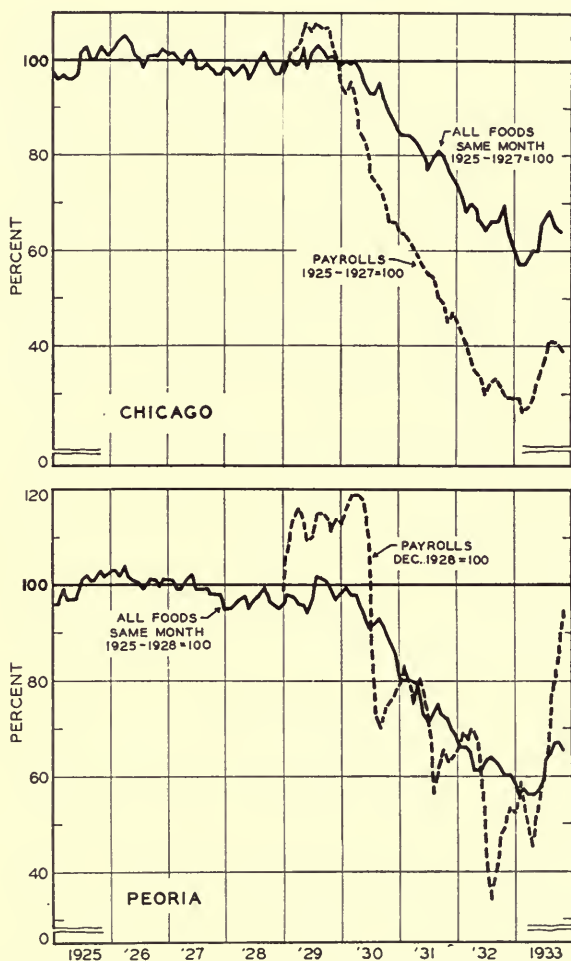


FIG. 30.—FACTORY PAYROLLS AND AVERAGE RETAIL PRICES OF 42 FOODS IN CHICAGO AND PEORIA, BY MONTHS, 1925-1933

From 1929 to 1933 payrolls at Chicago fell more rapidly than those at Peoria. Since retail food prices in these cities changed at about the same rate, the problem of providing food to the unemployed has been far greater, proportionately, in Chicago than in Peoria.

The disparity between retail prices for individual commodities may be greater than that for all foods. Thus the retail prices of evapo-

rated milk in Chicago were sustained higher than those in Peoria from 1927 to 1931. This divergence narrowed in 1930 and 1931, however, and by the latter part of 1932 price movements for this product in the two cities synchronized quite closely.

Evaporated Milk as a Competitor of Fluid Milk

Evaporated milk is probably the principal direct competitor of whole milk. The apparent per-capita consumption of condensed and evaporated milk in the United States in 1932 was 97.6 percent, or only slightly less than that for 1929. The commercial market for this product has been sustained at a high level during a period when for the larger city markets the commercial outlets for whole milk and cream declined from 10 to 15 percent.¹ This difference in apparent

TABLE 37.—COMPARISON OF AVERAGE RETAIL PRICES OF EVAPORATED MILK, BUTTER, AND WHOLE MILK IN THE UNITED STATES, 1929-1932¹

Year	Average retail price		Average retail price		Average retail price	
	14½-ounce can of evaporated milk	Percent of 1925-1927	Per quart of whole milk	Percent of 1925-1927	Per pound of butter	Percent of 1925-1927
	<i>cents</i>		<i>cents</i>		<i>cents</i>	
1929.....	9.9	95	14.3	102	55.1	101
1930.....	9.2	88	14.0	100	46.1	85
1931.....	8.2	79	12.3	88	35.4	65
1932.....	6.9	66	10.9	78	27.4	50

¹From current reports of U. S. Bureau of Labor Statistics.

consumption can be attributed largely to the differences in retail prices which have prevailed for these two commodities.

Thus in 1932 the average retail price of evaporated milk in the United States was 6.9 cents a 14½-ounce can (Table 37). This was 66 percent, or about two-thirds, of that for 1925-1927. The average price per retail quart of milk in 1932 was 10.9 cents. This was 78 percent of that for 1925-1927 (Table 30), or 18 percent higher than the relative price for evaporated milk.

From January, 1930, to January, 1932, the relative price of evaporated milk in Chicago was considerably lower than that of whole milk (Fig. 31, Table 33, and Appendix Table 58). Part of this disparity, however, largely disappeared when the retail price of milk was reduced from 11 to 9 cents a quart in January, 1933. The rise in prices of evaporated milk in 1933 partly offset the increase of one cent a quart of whole milk which occurred in May, 1933, in this market.

Retail prices of evaporated milk in Peoria declined rapidly during

¹See page 28.

the latter part of 1929 and in 1930 (Fig. 31 and Appendix Table 61). With payrolls at a high level during the early part of 1930 the lowered evaporated milk prices apparently had no effect upon sales of whole milk and table cream. From September, 1930, to March, 1931, how-

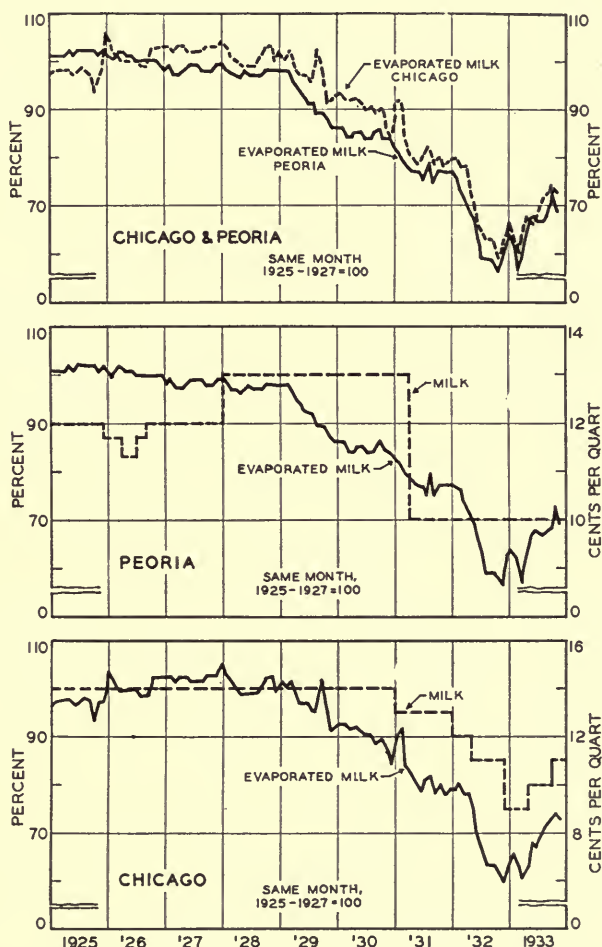


FIG. 31.—RETAIL PRICES OF MILK AND INDEXES OF AVERAGE RETAIL PRICES OF EVAPORATED MILK AT CHICAGO AND PEORIA, BY MONTHS, 1925-1933

Consumers usually turn first to evaporated milk when looking for a substitute for whole milk. Evaporated milk has been cheaper than whole milk in both Chicago and Peoria since 1930.

ever, retail prices of evaporated milk averaged only 7.9 cents a can, or about three-fourths of the retail price of a quart of whole milk. Tho no data are available as proof, it is probable that during this

period some Peoria consumers substituted evaporated milk for at least part of their usual purchases of whole milk and cream.

From April, 1931, to April, 1932, evaporated milk prices in Peoria were high in relation to the retail price of whole milk. Hence competition between evaporated milk and whole milk during the intensive sales campaign in the summer of 1931 was negligible. From May, 1932, however, until April, 1933, the retail price per can of evaporated milk averaged only 6.3 cents, or less than two-thirds the retail price of whole milk, which remained at 10 cents a quart. With the rise in the price of evaporated milk since April, 1933, the major part of the advantage which evaporated milk had over whole milk in Peoria disappeared.

On the basis of food value, a 14½-ounce can of evaporated milk is equal to about a quart of whole milk. At 6.9 cents a can and 10.9 cents a quart, whole milk in 1932 was about 60 percent higher per unit of food value than evaporated milk. For drinking purposes, however, the majority of consumers prefer whole milk to evaporated milk. This fact probably will continue to permit some differential to exist between the retail prices of these two commodities without bringing them into direct competition. Any attempt, however, to hold the retail price of whole milk too high in relation to that for evaporated milk is likely to encourage increased sales of the canned product and a decline in the sales of whole milk.

Competition of Butter and Oleomargarine

When consumption of milk or cream declines, most of the milk thus withdrawn from fluid outlets is manufactured into butter. Likewise when milk shortages develop, milk that otherwise would have been manufactured into butter is frequently diverted to fluid uses. Hence, while butter is not in direct competition with fluid milk, over a period of time a close relationship does exist between the prices of these products.

The rapid decline in retail butter prices from 1929 to 1933 precipitated a similar decline in retail prices of oleomargarine. Thus the retail price of butter in Chicago declined from 57.1 cents a pound in March, 1929, to 24.4 cents a pound in March, 1933 (Table 62). From 26.6 cents a pound in March, 1929, the retail price of oleomargarine in Chicago declined to 12.9 cents a pound in March, 1933 (Table 64). Similar reductions in retail prices of butter and oleomargarine were experienced at Peoria (Fig. 32 and Tables 66 and 68). These reductions in prices were general thruout the country.

Many consumers apparently prefer butter to oleomargarine when retail butter prices are as low relatively as those for this competitive product. Apparently a differential advantage in oleomargarine prices is necessary to cause increased consumption of this commodity.

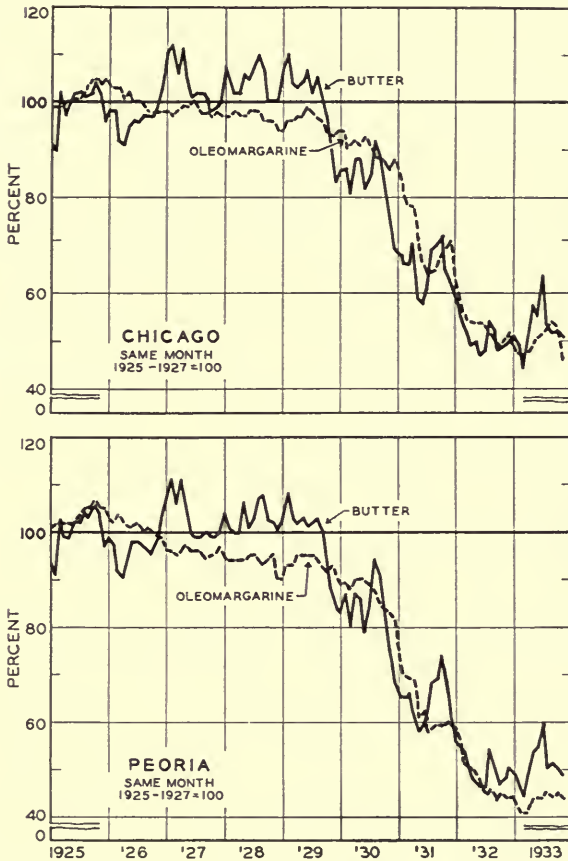


FIG. 32.—RETAIL PRICES OF BUTTER AND OLEOMARGARINE AT CHICAGO AND PEORIA, 1925-1933

Retail prices of oleomargarine have followed the course of retail butter prices closely during the past three and one-half years.

Competition of Bread in Chicago and Peoria

Retail prices of bread in both Chicago and Peoria were reduced more from 1929 to 1933 than those for milk, altho in Peoria the retail price of milk was relatively lower than bread prices from April to

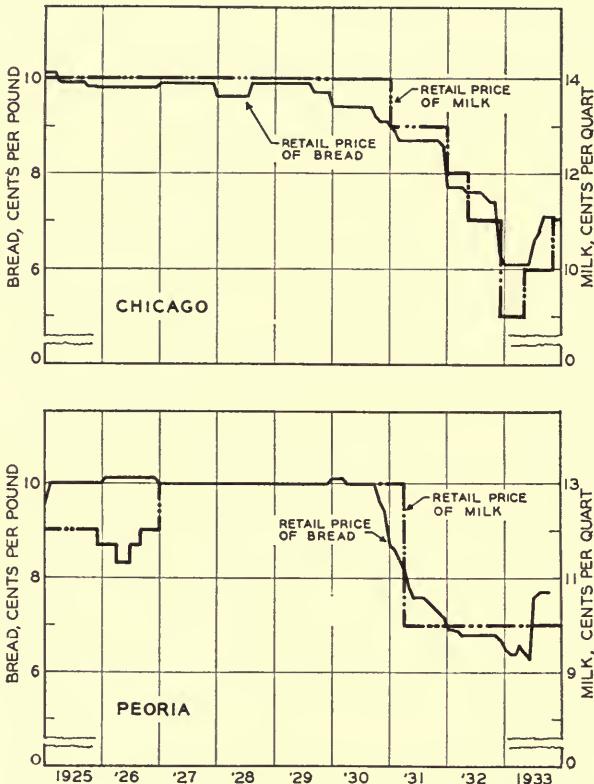


FIG. 33.—RETAIL PRICES OF BREAD AND MILK AT CHICAGO AND PEORIA, BY MONTHS, 1925-1933

The courses of the retail prices of bread and milk have been quite similar during recent years.

December, 1931 (Fig. 33 and Appendix Tables 70 and 72). The increase in the retail prices of bread in Peoria in the summer of 1933 removed, in large part, the disparity which had existed between these prices.

SUMMARY

Welfare of Dairyman as Related to Consumers' Incomes.—Consumers' expenditures for butter in the United States from 1920 to 1933 showed practically the same changes as those of the indexes of industrial payrolls. Since butter is the price-maker for a large proportion of milk, cream, and other dairy products sold, this indicates the vital significance which changes in industrial incomes have upon the economic welfare of dairymen and those handling dairy products.

Reductions in industrial payrolls from 1929 to 1933 were far greater in some cities than in others. In cities where payrolls declined most consumers' expenditures for milk and its products also declined most. Part of these reductions have been borne by dairymen and distributors as the result of lower prices and reduced consumption, and part have been offset by relief funds allocated for milk and its products.

Industrial payrolls have declined most in cities whose principal industries manufacture durable goods, namely, goods that are consumed over a period of years. Cities like Chicago, Detroit, Pittsburgh, and Milwaukee, and Rock Island, and Joliet, Illinois, where the iron and steel industries predominate, suffered most from 1929 to 1933. Cities like Philadelphia, New York, and Baltimore, and Peoria, Bloomington, and Springfield, Illinois, producing goods quickly consumed, such as foods and textile products, suffered much less during this period.

Market Demand for Milk Elastic.—Declining consumer purchasing power since 1929 has been accompanied by a significant decline in the market demand for milk. Major reductions in purchasing power unaccompanied by reductions in milk prices have been followed by marked decreases in the consumption of milk. Important reductions in the prices of substitute foods have been accompanied by reductions in sales of milk when milk prices were not adjusted proportionately.

Effect of Store Sales on Demand.—During recent years competition among stores selling milk and cream has been one of the most influential factors in bringing about rapid changes in retail prices of milk and cream in response to changes in consumer purchasing power. During the past decade store sales have constituted a larger part of the total sales of milk in Boston and New York than at any other large city market for which market sales data have been available. Coincident with this circumstance is the fact that the per-capita consumption of milk in these markets during recent years has been higher than that in any other market for which sales data are available. In 1932 the per-capita consumption of milk in New York averaged 33.3 percent higher, and at Boston 47.2 percent higher, than that at Phila-

delphia, where store sales constituted only a small part of the total sales.

Instead of tending to reduce sales, store sales at prices below wagon prices have been at least partly responsible for the higher per-capita consumption of milk at Boston and New York.

Population and Future Market Outlets.—While the potential outlet in the United States for milk is increasing, it is doing so at a declining rate, since the population, while still increasing, is increasing at a declining rate. According to estimates of the U. S. Bureau of Census, during the latter part of the decade 1920-1930 population increased less than half as rapidly as it did during the decade as a whole. This declining population curve intensifies the problem of bringing about any marked increase in total sales of market milk.

CONCLUSIONS

Out of a wide choice of foods the mass of consumers regularly buy only those which appear to them to give the greatest value for the money spent. Expressed otherwise, the demand for different foods is highly elastic and consequently competition between different foods is exceedingly keen, especially when consumer incomes are low. The direct result of this competitive force is evidenced by the higher per-capita consumption of milk and cream in specific cities where prices to consumers over a period of years have been kept relatively low.

Because of declining incomes from 1929 to 1933, consumers have been forced to use the greatest care in selecting foods for purchase. They have been financially unable to buy high-priced foods. Consequently markets in which prices for milk and cream were most quickly adjusted to correspond with reduced incomes have suffered least from declines in the consumption of these products.

In some markets it has been assumed that the 1929 per-capita consumption of milk, or that of some corresponding period, could be considered a standard volume, and that building up sales to that volume was an optimum goal for those interested in the dairy industry. As a matter of fact, however, the 1929 per-capita consumption in most markets was less than half that recommended by nutrition authorities as desirable. It would seem, therefore, that a long-time program of expansion for the fluid-milk industry should be based on policies that not only will help to regain sales that have been lost but that will also increase the per-capita consumption of milk above any amounts heretofore attained.

In considering ways of increasing the per-capita consumption of milk one important question is: What type or types of retail distribution service are to the best interests of consumers? The answer is that those types of service which in the long run will tend to bring

about the highest per-capita consumption of high-quality milk are the types that are to the best interests of consumers. For the eastern milk markets the best evidence now available indicates that the highest per-capita consumption of milk will be attained in cities that provide both store and home delivery service, assuming that consumers who are willing to forego part of the service of delivery by buying at stores will be rewarded by being able to buy at lower prices.

The general agreement among nutrition authorities that a higher consumption of milk would raise the general level of health gives the fluid-milk industry a scientific basis for encouraging people to use more milk. On the other hand, there is abundant evidence of the futility of trying to sell greater volumes of milk at prices that consumers do not consider in line with the prices of other foods. In spite of the high food value of milk and its important place in a well-rounded diet, there is no reason to believe that the reactions of consumers to price will be materially different in the next few years than they have been in the past. Consumers will continue to compare retail prices of milk with prices for butter, eggs, meat, and other foods which they use daily. If people are to be induced to use more milk, prices must be kept at a level which consumers consider reasonably low in relation to prices of competitive foods.

APPENDIX

TABLE 38.—COMPONENT COSTS OF 1,000 POUNDS OF AN ILLINOIS DAIRY RATION, DAIRY RATION PRICE INDEX, AND POUNDS OF RATION THAT 100 POUNDS OF MILK WOULD BUY, 1910-1932¹

Year	Costs of components of 1,000 pounds of a recommended dairy ration ¹					Dairy ration price index	Milk price index ²	Pounds of ration that 100 pounds milk would buy
	Bran	Oil Meal	Corn	Oats	Total	(1921-1929 = 100)		
	<i>\$00 pounds</i>	<i>175 pounds</i>	<i>\$00 pounds</i>	<i>225 pounds</i>	<i>1000 pounds</i>			
1910.....	\$3.17	\$2.84	\$2.84	\$2.60	\$11.45	75	65	134.5
1911.....	3.43	2.92	2.68	2.46	11.49	76	65	133.2
1912.....	3.47	2.88	3.37	2.88	12.60	83	68	127.0
1913.....	3.00	2.38	3.05	2.46	10.89	72	68	147.8
1914.....	3.46	2.58	3.59	2.74	12.37	81	69 ³	136.6
1915.....	3.27	3.01	3.64	3.02	12.94	85	69	126.0
1916.....	3.38	3.07	3.91	2.95	13.31	87	71	125.5
1917.....	5.36	4.30	7.45	4.22	21.33	140	88	97.0
1918.....	5.16	4.97	7.02	5.13	22.28	147	103	108.6
1919.....	6.40	6.38	7.98	4.57	25.33	167	120	111.7
1920.....	6.83	5.85	7.23	5.20	25.11	165	127	119.5
1921.....	2.75	3.36	2.62	2.32	11.05	73	107	228.0
1922.....	3.29	4.29	2.84	2.32	12.74	84	92	170.3
1923.....	4.15	4.15	3.91	2.81	15.02	99	103	161.8
1924.....	3.77	3.93	4.61	3.16	15.47	102	103	156.4
1925.....	4.11	3.82	4.98	2.95	15.86	104	98	145.6
1926.....	3.77	4.08	3.37	2.53	13.75	90	97	164.1
1927.....	4.42	4.15	3.96	2.95	14.48	95	98	160.2
1928.....	4.95	4.55	4.55	3.23	17.28	114	100	136.0
1929.....	4.28	4.88	4.50	2.95	16.61	109	101	143.3
1930.....	3.57	4.02	3.91	2.46	13.96	92	92	155.4
1931.....	2.23	2.56	2.41	1.55	8.75	58	74	198.8
1932.....	1.66	2.20	1.18	1.05	6.09	40	59	228.2

¹Recommended in Ill. Agr. Exp. Sta. Circ. 372, p. 10, No. 16. Prices for standard bran and linseed oil meal are as quoted at Chicago in *Crops and Markets*, U. S. Department of Agriculture. Illinois farm prices as reported by the Illinois Department of Agriculture were used for corn and oats. ²From *Illinois Crop and Livestock Statistics*, Circ. 435, p. 144. ³Estimate.

TABLE 39.—AVERAGE PRICE, PER 1,000 POUNDS, OF ILLINOIS DAIRY RATION, BY MONTHS, 1929-1933¹

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
Average 1921-1929..	\$15.48	\$15.45	\$15.38	\$15.11	\$15.26	\$14.96	\$14.95	\$14.95	\$14.98	\$14.99	\$15.25	\$15.46	\$15.20
1929.....	17.16	17.53	16.96	15.86	15.43	15.36	16.66	16.85	17.74	17.27	16.28	15.95	16.61
1930.....	15.63	15.08	14.34	15.74	14.67	13.73	12.67	14.77	14.34	13.16	11.61	11.43	13.96
1931.....	11.00	10.55	10.67	10.64	9.33	8.38	8.09	7.55	6.98	6.49	8.02	7.53	8.75
1932.....	7.55	7.18	7.22	7.31	6.49	5.85	5.60	5.57	5.48	4.93	4.89	4.62	6.09
1933.....	4.62	4.89	5.17	6.18	7.49	7.67	11.47	10.31	9.73	8.70	....	....	....

¹See Table 38, footnote 1.

TABLE 40.—INDEXES OF COST OF AN ILLINOIS DAIRY RATION, BY MONTHS, 1929-1933
(Same month 1921-1929 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1929.....	111	113	110	105	101	103	111	113	118	115	107	103	109
1930.....	101	98	93	104	96	92	85	99	96	88	76	74	92
1931.....	71	68	69	70	61	56	54	51	47	43	53	49	58
1932.....	49	46	47	48	43	39	37	37	37	33	32	30	40
1933.....	30	32	34	41	49	51	77	69	65	58	..	..	..

TABLE 41.—INDEXES OF ILLINOIS FARM PRICE OF MILK, BY MONTHS, 1929-1933¹
(Same month 1921-1929 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1929.....	97	101	101	103	107	101	98	100	102	101	102	100	101
1930.....	95	91	92	90	96	88	91	89	94	99	91	88	92
1931.....	77	73	74	73	78	71	73	74	75	75	73	71	74
1932.....	64	63	62	64	66	58	60	56	56	56	54	48	59
1933.....	46	45	45	47	53	54	60	59	58	60	..	..	..

¹From *Illinois Crop and Livestock Statistics*, Circ. 435, and from monthly reports of the Illinois Department of Agriculture.

TABLE 42.—CONSUMPTION OF MILK AND MILK EQUIVALENT OF TABLE CREAM AT THE PEORIA MARKET, JANUARY, 1927, TO AUGUST, 1933¹
(Thousands of pounds)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1927	2 061	1 824	2 021	1 972	2 015	1 912	1 920	1 852	1 891	1 943	1 953	2 010	23 374
1928	1 977	1 953	1 982	1 932	2 032	1 896	1 959	1 892	1 868	1 906	1 948	1 948	23 293
1929	1 939	1 799	2 011	1 972	2 034	1 890	1 893	2 076	2 085	2 230	2 181	2 179	24 289
1930	2 191	2 003	2 215	2 197	2 292	2 201	2 185	2 141	2 102	2 156	2 080	2 057	25 819
1931	2 072	1 849	2 055	2 254	2 284	2 221	2 275	2 438	2 254	2 259	2 138	2 211	26 310
1932	2 177	2 024	2 112	2 128	2 155	2 041	1 990	1 999	1 889	1 926	1 809	1 800	23 931
1933	1 732	1 520	1 736	1 842	1 816	1 789	1 848	1 894	.....	.....	.....	.....	.....

¹Data are based upon sales as reported by contracting dealers to the Illinois Milk Producers Association, plus weighted estimate of other sales. Weighting was effected by (1) adding 10 percent to reported sales of contracting dealers to adjust for milk sold outside of the Association during the entire period and (2) adding 40 percent of the difference between sales of contracting dealers in 1931 and those for corresponding months in 1932 and 1933 in order to adjust for estimated increase in sales of noncontracted milk since 1931. These proportions were based upon information from the Peoria Board of Health, from the Illinois Milk Producers Association, and from an official of one of the principal contracting dealers.

TABLE 43.—INDEXES OF CONSUMPTION OF MILK AND TABLE CREAM AT THE PEORIA MARKET, JANUARY, 1927—AUGUST, 1933
(Same month 1927-1929 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1927.....	103	99	101	101	99	101	100	96	97	96	96	98	99
1928.....	99	103	99	99	100	101	102	98	96	94	96	95	99
1929.....	97	98	100	101	100	99	98	107	107	110	108	106	103
1930.....	110	109	110	112	113	116	114	110	108	106	103	101	109
1931.....	104	101	102	115	113	117	118	126	116	112	106	108	111
1932.....	109	106 ¹	105	109	106	107	103	103	97	95	89	88	101
1933.....	87	83	87	94	90	94	96	98	..	..	..	..	..

¹Corrected to 28-day basis.

TABLE 44.—MILK RECEIPTS AT NEW YORK, BY MONTHS, 1929-1933¹
(Thousands of 40-quart units)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1929	2 838	2 615	2 952	2 834	3 013	3 133	3 060	2 935	2 977	2 988	2 883	2 871	35 099
1930	2 888	2 659	2 990	2 875	3 176	3 114	3 144	2 990	3 087	3 022	2 897	2 924	35 766
1931	2 911	2 683	3 000	2 935	3 105	3 112	3 200	3 061	3 069	3 048	2 916	2 969	36 009
1932	3 012	2 828	3 045	2 881	3 044	2 986	3 028	2 970	2 893	2 847	2 694	2 721	34 949
1933	2 739	2 557	2 813	2 739	3 044	2 967	2 835	2 863	2 774	2 840	.....	.....	.....

¹Corrected data for 1929-1930 taken from *Farm Economics*, No. 74, Cornell University, p. 1709. Data for 1931 to February, 1933 from *American Creamery and Poultry Produce Review*, March 29, 1933, p. 760. Data for March, 1933, to date from later issues of this publication.

TABLE 45.—INDEXES OF MILK RECEIPTS AT NEW YORK, BY MONTHS, 1929-1933
(Same month 1929-1931 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1929	98.6	98.9	98.8	98.5	97.5	100.8	98.0	98.4	97.7	98.8	99.4	98.2	98.8
1930	100.3	100.4	100.1	100.0	102.7	100.2	100.7	100.2	101.3	100.0	100.0	100.0	100.2
1931	101.0	100.7	101.1	101.5	99.8	99.0	101.3	101.4	101.0	101.2	100.6	101.7	100.9
1932	104.6	103.2 ¹	102.0	100.1	98.5	96.1	97.0	99.5	94.9	94.2	92.9	93.1	98.2
1933	95.2	96.6	94.2	95.2	98.5	95.4	90.8	96.0	91.0	93.9	.....	.....	.....

¹Corrected to 28-day basis.

TABLE 46.—RECEIPTS OF FLUID MILK AT PHILADELPHIA, BY MONTHS, 1929-1933¹
(Thousands of 40-quart units)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1929	587.9	565.1	638.1	616.6	646.8	647.9	624.7	614.8	618.1	640.7	614.4	619.8	7 435.1
1930	614.5	557.0	628.4	607.7	651.8	617.0	616.7	596.9	620.3	644.4	618.2	622.3	7 395.3
1931	617.5	560.8	630.2	607.6	629.7	605.4	599.8	584.1	604.6	620.4	590.6	593.0	7 243.7
1932	588.9	558.7	599.0	565.8	613.4	578.7	569.8	541.8	538.1	562.6	554.9	566.2	6 838.1
1933	568.9	518.0	583.6	569.7	611.0	580.1	572.5	556.6	545.1	573.7	552.8	555.5	6 787.5

¹As reported by U. S. Bureau of Agricultural Economics. Data for 1929 and 1930 obtained from U. S. D. A. Yearbooks for 1930 and 1931. Later data taken from current reports published by the Bureau. Milk receipts at Philadelphia are also reported annually by the Philadelphia Milk Exchange. These receipts (in millions of quarts) were reported as follows: 1929, 280; 1930, 266; 1931, 271; and 1932, 260. These reports cover a somewhat different metropolitan area than those shown in the above table. In 1932 milk receipts, as reported by the Milk Exchange, were 7.1 percent lower than those for 1929; while 1932 milk receipts, as shown in the federal reports, averaged 7.9 percent less than those for 1929.

TABLE 47.—INDEXES OF RECEIPTS OF FLUID MILK AT PHILADELPHIA,
BY MONTHS, 1929-1933
(Same month 1929-1931 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1929	96.9	100.7	100.9	101.0	100.6	103.9	101.8	102.7	100.6	100.9	101.1	101.3	101.1
1930	101.3	99.3	99.4	99.5	101.4	99.0	100.5	99.7	101.0	101.4	101.7	101.7	100.5
1931	101.8	100.0	99.7	99.5	98.0	97.1	97.7	97.6	98.4	97.7	97.2	97.0	98.4
1932	97.1	96.0 ¹	94.7	92.6	95.4	92.8	92.8	90.5	87.6	88.6	91.3	92.6	92.9
1933	93.8	92.3	92.3	93.3	95.1	93.1	93.3	93.0	88.7	90.3	91.0	90.8	92.3

¹Corrected to 28-day basis.

TABLE 48.—RECEIPTS OF CREAM¹ AT THE NEW YORK MARKET,
BY MONTHS, 1929-1933²
(Hundreds of 40-quart units)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1929	1 350	1 377	1 795	2 035	2 655	3 015	2 614	2 153	1 933	1 539	1 427	1 395	23 288
1930	1 473	1 364	1 879	1 913	2 951	2 785	2 458	1 967	1 710	1 599	1 386	1 369	22 854
1931	1 444	1 462	1 729	2 013	2 486	2 532	2 274	2 006	1 864	1 746	1 525	1 534	22 615
1932	1 662	1 563	1 685	1 753	2 350	2 391	2 036	1 888	1 569	1 411	1 216	1 241	20 765
1933	1 318	1 269	1 432	1 440	1 909	1 878	1 710	1 591	1 532	1 308	.....	.....	.....

¹Receipts of plain condensed milk are included with cream receipts. ²As reported by the *American Creamery and Produce Review*. Data for January, 1929, to December, 1930, from *Farm Economics*, No. 74, Cornell University, p. 1709. Data from January, 1931, to March, 1933, from *American Creamery and Produce Review*, March, 1933, p. 760. Later data taken from current issues of this publication.

TABLE 49.—INDEXES OF RECEIPTS OF CREAM AT THE NEW YORK MARKET,
BY MONTHS, 1929-1933
(Same month 1929-1931 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1929	95.1	98.5	99.8	102.5	98.6	108.7	106.9	105.5	105.5	94.7	99.7	97.8	101.9
1930	103.8	97.5	104.4	96.4	109.5	100.5	100.5	96.4	93.3	98.4	96.9	95.9	99.9
1931	101.3	104.0	95.8	101.1	91.9	90.8	92.6	98.1	101.2	106.9	103.4	106.3	98.2
1932	117.1	107.9 ¹	93.7	88.3	87.2	86.2	83.2	92.5	85.6	86.8	85.0	87.0	90.8
1933	92.9	90.7	79.6	72.6	70.9	67.7	69.9	78.0	83.6	80.5	.....	.....	.....

¹Corrected to 28-day basis.

TABLE 50.—RECEIPTS OF CREAM AT THE PHILADELPHIA MARKET,
BY MONTHS, 1929-1933¹
(Hundreds of 40-quart units)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1929	250.9	212.8	316.8	376.9	419.4	430.0	457.1	417.3	381.5	255.1	221.2	209.5	3 948.5
1930	243.2	206.7	311.4	305.0	515.0	414.5	401.3	378.7	364.9	337.1	228.9	223.6	3 930.3
1931	186.3	192.2	278.6	338.0	352.3	371.4	390.3	362.0	226.0	233.2	197.6	210.8	3 338.7
1932	230.1	231.0	215.6	225.6	330.6	341.8	241.6	218.9	233.9	164.3	159.8	139.7	2 732.8
1933	188.4	183.9	203.7	217.9	318.0	282.0	327.9	296.8	198.5	177.3	134.0	157.4	2 685.8

¹As reported by U. S. Bureau of Agricultural Economics. Data for 1929 and 1930 from U. S. D. A. Yearbooks for 1930 and 1931. Later data from monthly reports issued by the Bureau.

TABLE 51.—INDEXES OF RECEIPTS OF CREAM AT THE PHILADELPHIA MARKET,
BY MONTHS, 1929-1933
(Same month 1929-1931 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1929.....	110.6	104.5	104.8	110.9	97.8	106.1	109.8	108.1	117.7	92.7	102.4	97.6	105.3
1930.....	107.2	101.5	103.0	89.7	120.1	102.3	96.4	98.1	112.6	122.5	106.0	104.2	105.3
1931.....	82.1	94.4	92.2	99.8	82.1	91.6	93.8	93.8	69.7	84.8	91.5	98.2	89.5
1932.....	101.4	109.5 ¹	71.3	66.4	77.1	84.3	58.0	56.7	72.2	59.7	74.0	65.1	74.6
1933.....	83.1	90.3	67.4	64.1	74.1	69.6	78.8	76.9	61.2	64.4	62.1	73.3	72.1

¹Corrected to 28-day basis.

TABLE 52.—RETAIL PRICES OF MILK DELIVERED TO CONSUMERS IN
NEW YORK CITY, 1929-1933¹

Period	Per quart
	<i>cents</i>
January, 1929, to April, 1930.....	16
May to August, 1930.....	15
September to December, 1930.....	16
January to October, 1931.....	15
November, 1931.....	14
December, 1931, to December, 1932.....	12
January, 1933.....	11
February to May, 1933.....	10
June to July, 1933.....	11
August to December, 1933.....	12

¹As reported in monthly *Fluid Milk Report*, U. S. Bureau of Agricultural Economics.TABLE 53.—RETAIL PRICES OF MILK DELIVERED TO CONSUMERS AND OFFERED IN
STORES, PHILADELPHIA, 1929-1933¹

Period	Per quart
	<i>cents</i>
January to August, 1929.....	13
September to December, 1929.....	14
January to December, 1930.....	13
January to August, 1931.....	12
September, 1931, to February, 1932.....	11
March to October, 1932.....	10
November, 1932, to May, 1933.....	9
June to August, 1933.....	10
September to December, 1933.....	11

¹As reported in monthly *Fluid Milk Report*, U. S. Bureau of Agricultural Economics.TABLE 54.—RETAIL PRICES OF LIGHT CREAM AT NEW YORK CITY, 1929 TO 1933¹

Period	Per half-pint
	<i>cents</i>
January, 1929, to March, 1930.....	19
April to November, 1930.....	17
December, 1930, to January, 1931.....	15-17
February to June, 1931.....	15
July to October, 1931.....	12
November, 1931, to January, 1932.....	13
February to April, 1932.....	14
May to November, 1932.....	12
December, 1932, to January, 1933.....	10-12
February to April, 1933.....	9-10
May to July, 1933.....	11-12
August to December, 1933.....	12-13

¹As reported in monthly *Fluid Milk Report*, U. S. Bureau of Agricultural Economics.

TABLE 55.—RETAIL PRICES OF LIGHT CREAM AT PHILADELPHIA, 1929-1933¹

Period	Per half-pint
	<i>cents</i>
January, 1929, to December, 1930.....	17
January to June, 1931.....	16
July, 1931, to February, 1932.....	15
March to October, 1932.....	14
November, 1932, to December, 1933.....	13

¹As reported in monthly *Fluid Milk Report*, U. S. Bureau of Agricultural Economics. Where a wide range of prices in excess of the usual sales price was reported the lower figure reported was tabulated.

TABLE 56.—CHANGES IN RETAIL DELIVERED PRICE PER QUART OF MILK, BOSTON, 1928-1933¹

Period	Per quart	Period	Per quart
	<i>cents</i>		<i>cents</i>
August, 1928, to May, 1929.....	15.5	August–November, 1931.....	13.5
June, 1929.....	14.5	December, 1931.....	12.5–10.0
July, 1929, to May, 1930.....	15.5	January–June, 1932.....	10.0
June–July, 1930.....	14.5	July, 1932.....	10.0–11.0
August–November, 1930.....	15.5	August, 1932, to January, 1933.....	11.0
December, 1930.....	15.5–14.5–13.5	February–April, 1933.....	10.0
January, 1931.....	13.5	May, 1933.....	10.0–11.0
February–July, 1931.....	12.5	June–August, 1933.....	11.0
		September–December, 1933.....	11.0–12.0

¹From data obtained thru the courtesy of New England Milk Producers' Association.

TABLE 57.—STORE PRICES FOR 35-PERCENT CREAM AT BOSTON, 1928-1933¹
(Cents per half-pint)

Month	1928	1929	1930	1931	1932	1933	
						Regular	Week-end special
January.....	16	19	19, 15	15	18	2 for 25¢	10
February.....	16	19	15	15, 2 for 27 Single: 14, 13, 15, 14	18	2 for 25¢	10
March.....	16	19	15, 17	14	18	2 for 25¢	10
April.....	16, 17	19	17	14	18, 15	2 for 25¢	10
May.....	17	19	17, 15, 14	14	15	.....	..
June.....	17	19, 17	14, 17	14	15, 2 for 25¢	2 for 25¢	10
July.....	17	17	17	14	2 for 25¢	2 for 25¢	14
August.....	17, 19	17, 19	17, 19	14, 16	2 for 25¢	.....	..
September.....	19	19	19	16, 17	2 for 25¢	.....	..
October.....	19	19	19	17, 18	2 for 25¢	.....	..
November.....	19	19	19	18	2 for 25¢	.....	..
December.....	19	19	19, 16, 15	18	2 for 25¢	.....	..
Average.....	17.4	18.6	17.1	15.3	13.2	.....	..

¹Data obtained thru courtesy of the New England Milk Producers Association.

TABLE 58.—AVERAGE RETAIL PRICES OF EVAPORATED MILK IN CHICAGO,
BY MONTHS, 1925-1933¹
(Cents per 14½-ounce can)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925-1927.....	9.9	9.93	9.93	9.93	9.93	9.97	10.00	10.00	9.97	10.04	10.04	10.04	10.00
1925.....	9.6	9.7	9.7	9.7	9.7	9.7	9.8	9.9	9.8	9.9	9.9	9.9	9.8
1926.....	9.9	9.9	10.0	9.9	9.9	10.0	10.0	9.9	9.9	10.2	10.2	10.2	10.0
1927.....	10.2	10.2	10.1	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
1928.....	10.3	10.2	10.0	9.9	9.8	9.9	9.9	9.9	10.1	10.2	10.2	10.1	10.1
1929.....	10.1	10.0	10.1	9.8	9.6	9.7	9.6	9.6	9.4	9.4	9.2	9.3	9.7
1930.....	9.2	9.2	9.1	9.1	9.1	9.1	9.0	9.0	8.9	8.9	8.7	8.5	9.0
1931.....	9.0	9.1	8.3	8.0	7.9	7.8	8.0	8.2	7.8	7.9	7.9	8.0	8.1
1932.....	7.8	7.9	7.7	7.7	7.3	6.7	6.5	6.3	6.3	6.1	6.0	6.3	6.9
1933.....	6.5	6.4	6.0	6.3	6.7	6.7	6.9	7.1	7.2	7.3	7.2	....	....

¹From current reports of U. S. Bureau of Labor Statistics. Prices from January, 1925, to December, 1931, converted from 16-ounce can to 14½-ounce can by multiplying by .90625.

TABLE 59.—INDEXES OF AVERAGE RETAIL PRICES OF EVAPORATED MILK IN
CHICAGO, BY MONTHS, 1925-1933
(Same month 1925-1927 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925.....	97	98	98	98	98	97	98	99	98	98	98	98	98
1926.....	100	100	101	100	100	100	100	99	99	103	103	103	100
1927.....	103	103	102	103	103	102	102	102	102	103	103	103	102
1928.....	104	103	101	100	99	99	99	99	101	103	103	100	101
1929.....	101	101	102	99	97	97	96	96	94	95	91	92	97
1930.....	93	93	92	92	92	91	90	90	89	90	86	84	90
1931.....	91	92	84	81	80	78	80	82	78	80	78	79	81
1932.....	79	80	78	78	74	67	65	63	63	62	59	62	69
1933.....	66	64	60	63	68	67	69	71	72	74	73	..	..

TABLE 60.—AVERAGE RETAIL PRICES OF EVAPORATED MILK IN
PEORIA, BY MONTHS, 1925-1933¹
(Cents per 14½-ounce can)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925-1927.....	10.40	10.40	10.50	10.5	10.33	10.33	10.43	10.43	10.40	10.40	10.37	10.33	10.4
1925.....	10.5	10.5	10.6	10.6	10.5	10.4	10.6	10.6	10.6	10.6	10.5	10.5	10.5
1926.....	10.5	10.4	10.7	10.7	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.3	10.5
1927.....	10.2	10.3	10.2	10.2	10.1	10.2	10.3	10.3	10.2	10.2	10.2	10.2	10.2
1928.....	10.3	10.2	10.2	10.2	9.9	10.1	10.1	10.1	10.1	10.2	10.1	10.1	10.2
1929.....	10.2	10.2	10.3	10.0	9.7	9.6	9.5	9.5	9.2	9.2	9.1	8.9	9.6
1930.....	8.9	8.9	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.9	8.7	8.7	8.8
1931.....	8.5	8.4	8.3	8.2	8.0	7.9	7.8	8.2	7.8	8.0	8.0	8.0	8.1
1932.....	8.0	7.9	7.7	7.5	7.3	6.8	6.2	6.2	6.1	6.0	5.8	6.4	6.8
1933.....	6.8	6.6	5.9	6.5	6.9	7.0	7.0	7.0	7.0	7.0	7.1	....	....

¹From current reports of U. S. Bureau of Labor Statistics. Prices from January, 1925, to December, 1931, converted from 16-ounce can to 14½-ounce can by multiplying by .90625.

TABLE 61.—INDEXES OF AVERAGE RETAIL PRICES OF EVAPORATED MILK IN
PEORIA, BY MONTHS, 1925-1933
(Same month 1925-1927 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925.....	101	101	101	101	102	101	102	102	102	102	101	102	102
1926.....	101	100	102	102	101	101	100	100	100	100	100	100	101
1927.....	98	99	97	97	98	99	99	99	98	98	98	99	98
1928.....	99	98	97	97	96	98	97	97	97	98	98	98	98
1929.....	98	98	98	95	94	93	91	91	89	89	88	86	92
1930.....	86	86	84	84	85	85	84	84	85	86	84	84	84
1931.....	82	81	79	78	77	77	75	79	75	77	77	77	78
1932.....	77	76	73	71	71	66	59	59	59	58	56	62	65
1933.....	65	63	56	62	67	68	67	67	67	67	69	..	..

TABLE 62.—AVERAGE RETAIL PRICES OF BUTTER IN CHICAGO,
BY MONTHS, 1925-1933¹
(Cents per pound)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925-1927.....	52.27	52.00	55.03	51.83	49.50	49.73	49.20	49.40	52.20	55.16	56.70	58.56	52.63
1925.....	47.7	47.0	55.9	50.5	49.4	50.9	50.4	50.1	53.4	57.5	57.6	56.3	52.2
1926.....	51.3	50.8	50.8	47.3	47.2	48.0	47.1	47.8	50.5	53.7	56.3	60.6	51.0
1927.....	57.8	58.2	58.4	57.7	51.8	50.3	50.1	50.3	52.7	54.3	56.2	58.8	54.7
1928.....	56.0	54.1	56.3	52.9	52.7	52.1	52.8	54.1	56.1	55.2	57.0	58.3	54.8
1929.....	56.0	57.4	57.1	53.4	51.6	52.8	50.4	51.7	52.7	53.5	50.9	48.6	52.9
1930.....	44.3	45.0	44.7	45.8	43.5	40.7	41.8	45.5	46.7	46.4	42.9	40.2	44.0
1931.....	35.8	34.5	36.6	36.5	29.0	29.0	30.1	34.2	36.8	39.9	37.0	36.5	34.4
1932.....	31.1	28.6	28.7	25.5	24.6	23.4	23.8	26.5	26.9	26.7	27.6	29.6	26.9
1933.....	26.5	25.1	24.4	26.6	28.4	27.5	31.5	26.4	27.3	28.9	29.0	....	....

¹From current reports of U. S. Bureau of Labor Statistics.

TABLE 63.—INDEXES OF AVERAGE RETAIL PRICES OF BUTTER IN CHICAGO,
BY MONTHS, 1925-1933
(Same month 1925-1927 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925.....	91	90	102	97	100	102	102	101	102	104	102	96	99
1926.....	98	98	92	91	95	96	96	97	97	97	99	103	97
1927.....	110	112	106	111	105	101	102	102	101	98	99	100	104
1928.....	107	104	102	102	106	105	107	110	107	100	100	100	104
1929.....	107	110	104	103	104	106	102	105	101	97	90	83	100
1930.....	85	86	81	88	88	82	85	92	89	84	76	69	84
1931.....	68	66	66	70	59	58	61	69	70	72	65	62	65
1932.....	59	55	52	49	50	47	48	54	52	48	49	50	51
1933.....	51	48	44	51	57	55	64	53	52	52	51	..	..

TABLE 64.—AVERAGE RETAIL PRICES OF OLEOMARGARINE IN CHICAGO,
BY MONTHS, 1925-1933¹
(Cents per pound)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925-1927.....	27.97	27.80	27.70	27.40	27.30	27.00	27.13	27.40	27.70	28.13	28.16	28.03	27.62
1925.....	27.6	27.6	27.4	27.4	27.2	27.2	27.5	28.1	29.0	29.5	29.4	29.3	28.1
1926.....	28.8	28.7	28.5	27.7	27.7	26.9	27.0	27.1	27.0	27.5	27.6	27.6	27.6
1927.....	27.5	27.1	27.2	27.1	27.0	26.9	26.9	27.0	27.1	27.4	27.5	27.2	27.2
1928.....	27.0	26.9	27.0	26.7	26.6	26.5	26.7	26.8	26.7	27.0	26.9	26.4	26.8
1929.....	26.2	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.6	26.4	26.2	26.4	26.5
1930.....	26.4	24.9	25.2	25.1	24.8	25.0	24.7	24.3	24.3	24.7	24.3	24.7	24.9
1931.....	24.1	22.5	21.5	21.4	19.6	17.7	17.5	17.7	18.0	19.2	19.8	20.1	19.9
1932.....	18.1	16.0	15.3	14.9	14.7	14.5	14.3	14.2	13.9	13.8	14.2	14.7	14.9
1933.....	13.6	13.3	12.9	13.1	13.7	13.8	14.1	14.5	15.0	15.0	13.0	....	....

¹From current reports of U. S. Bureau of Labor Statistics.

TABLE 65.—INDEXES OF AVERAGE RETAIL PRICES OF OLEOMARGARINE IN CHICAGO,
BY MONTHS, 1925-1933
(Same month 1925-1927 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925.....	99	99	99	100	100	101	101	103	105	105	104	105	102
1926.....	103	103	103	101	102	100	100	99	98	98	98	98	100
1927.....	98	97	98	99	99	100	99	98	98	97	98	97	98
1928.....	97	97	98	97	97	98	98	98	96	96	96	94	97
1929.....	94	96	96	97	97	99	98	97	96	94	93	94	96
1930.....	94	90	91	92	91	93	91	89	88	88	86	88	75
1931.....	86	81	78	78	72	66	64	65	65	68	70	72	72
1932.....	65	58	55	54	54	54	53	52	50	49	50	52	54
1933.....	49	48	47	48	50	51	52	53	54	53	46	..	..

TABLE 66.—AVERAGE RETAIL PRICES OF BUTTER IN PEORIA,
BY MONTHS, 1925-1933¹
(Cents per pound)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925-1927.....	52.33	50.90	53.66	50.83	48.33	48.73	47.76	47.60	49.80	52.33	53.73	56.00	51.03
1925.....	49.2	46.5	55.0	50.4	48.0	49.5	49.2	49.3	51.5	55.3	55.7	54.3	51.2
1926.....	51.7	49.6	49.1	45.5	46.1	47.7	46.8	46.2	48.1	49.9	52.5	57.8	49.3
1927.....	56.1	56.6	56.9	56.6	50.9	49.0	47.3	47.3	49.8	51.8	53.0	55.9	52.6
1928.....	54.6	51.6	53.7	51.1	51.1	49.2	49.2	50.8	53.8	53.9	54.4	55.9	52.4
1929.....	53.4	55.2	55.4	51.8	49.8	49.1	48.7	48.9	50.0	50.5	47.3	47.0	50.6
1930.....	43.6	44.4	43.1	44.3	41.7	38.6	40.2	44.5	45.5	43.5	40.4	37.8	43.1
1931.....	34.1	33.3	35.1	31.8	27.9	28.6	29.6	32.6	34.3	38.6	36.0	34.2	33.0
1932.....	29.4	27.8	27.9	24.6	22.8	22.2	22.0	25.8	25.1	24.6	26.0	28.1	25.5
1933.....	25.6	24.0	23.4	24.8	26.3	26.6	28.7	23.9	25.4	26.0	26.1	....	....

¹From current reports of U. S. Bureau of Labor Statistics.

TABLE 67.—INDEXES OF AVERAGE RETAIL PRICES OF BUTTER IN
PEORIA, BY MONTHS, 1925-1933
(Same month 1925-1927 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925.....	94	91	103	99	99	102	103	104	103	106	104	97	100
1926.....	99	97	92	90	95	98	98	97	96	95	98	103	97
1927.....	107	111	106	111	105	100	99	99	100	99	99	100	103
1928.....	104	101	100	100	106	101	103	107	108	103	101	100	103
1929.....	102	108	103	102	103	101	102	103	100	96	88	84	99
1930.....	83	87	80	87	86	79	84	94	91	83	75	68	85
1931.....	65	65	66	62	58	59	62	68	69	74	67	61	65
1932.....	56	55	52	48	47	46	46	54	50	47	48	50	50
1933.....	49	47	44	49	54	55	60	50	51	50	49	..	..

TABLE 68.—AVERAGE RETAIL PRICES OF OLEOMARGARINE IN
PEORIA, BY MONTHS, 1925-1933¹
(Cents per pound)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925-1927.....	30.27	30.23	29.86	29.20	29.20	29.16	29.16	29.30	29.60	29.76	29.60	29.83	29.63
1925.....	30.7	30.8	30.3	29.8	29.9	29.8	29.7	30.8	31.1	31.5	31.2	31.2	30.6
1926.....	31.2	31.0	30.9	29.7	29.5	29.8	29.9	29.4	30.0	29.6	29.4	29.4	30.0
1927.....	28.9	28.9	28.4	28.1	28.2	27.9	27.9	27.7	27.7	28.2	28.2	28.9	28.3
1928.....	28.6	28.4	28.0	27.5	27.6	27.7	27.6	27.6	27.6	28.0	28.0	27.0	27.8
1929.....	27.3	28.0	27.7	27.7	27.7	27.7	27.6	27.5	27.5	27.5	27.5	27.2	27.6
1930.....	26.8	26.9	26.4	26.3	26.3	25.9	25.8	25.5	25.3	25.0	24.6	24.5	25.8
1931.....	23.0	21.1	20.5	20.2	17.9	17.7	16.9	17.2	17.4	17.6	17.7	17.8	18.8
1932.....	17.4	15.6	15.3	14.5	14.1	13.1	13.0	13.6	13.1	13.3	12.9	13.0	14.1
1933.....	13.1	12.5	12.2	12.5	12.8	12.4	12.9	13.3	13.1	13.5	13.0	....	....

¹From current reports of U. S. Bureau of Labor Statistics.

TABLE 69.—INDEXES OF AVERAGE RETAIL PRICES OF OLEOMARGARINE IN
PEORIA, BY MONTHS, 1925-1933
(Same month 1925-1927 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925.....	101	102	102	102	102	102	102	105	105	106	105	105	103
1926.....	103	102	104	102	101	102	102	100	101	100	99	99	101
1927.....	96	96	95	96	97	96	96	95	94	95	95	97	96
1928.....	94	94	94	94	94	95	95	94	93	94	95	90	94
1929.....	90	93	93	95	95	95	95	94	93	92	93	91	93
1930.....	89	89	88	90	90	90	89	87	85	84	83	82	87
1931.....	76	70	69	69	61	62	58	59	59	59	60	60	64
1932.....	58	52	51	50	48	46	45	46	44	45	44	44	48
1933.....	43	41	41	43	44	44	44	45	44	45	44	..	..

TABLE 70.—AVERAGE RETAIL PRICES OF BREAD IN CHICAGO,
BY MONTHS, 1925-1933¹
(Cents per pound)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925-1927.....	9.93	9.93	9.93	9.87	9.87	9.87	9.87	9.87	9.87	9.83	9.83	9.83	9.87
1925.....	10.1	10.1	10.1	9.9	9.9	9.9	9.9	9.9	9.9	9.8	9.8	9.8	9.9
1926.....	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8	9.8
1927.....	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
1928.....	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.9	9.9	9.9	9.9	9.9	9.7
1929.....	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.7	9.7	9.7	9.7	9.8
1930.....	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.2	9.1	9.1	9.3
1931.....	9.0	8.9	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.6	8.7
1932.....	7.7	7.7	7.7	7.7	7.6	7.6	7.6	7.6	7.5	7.4	7.4	6.3	7.5
1933.....	6.1	6.1	6.1	6.1	6.1	6.1	6.6	6.8	7.1	7.1	7.1	...	...

¹From current reports of U. S. Bureau of Labor Statistics.

TABLE 71.—INDEXES OF AVERAGE RETAIL PRICES OF BREAD IN
CHICAGO, BY MONTHS, 1923-1933
(Same month 1925-1927 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925.....	102	102	102	100	100	100	100	100	100	100	100	100	100
1926.....	99	99	99	99	99	99	99	99	99	100	100	100	99
1927.....	100	100	100	100	100	100	100	100	100	101	101	101	100
1928.....	97	97	97	97	97	97	97	100	100	101	101	101	98
1929.....	100	100	100	100	100	100	100	100	98	99	99	99	99
1930.....	95	95	95	95	95	95	95	95	95	94	93	93	94
1931.....	91	90	88	88	88	88	88	88	88	88	88	88	88
1932.....	78	78	78	78	77	77	77	77	76	75	75	64	76
1933.....	62	62	61	62	62	62	67	69	72	72	72	..	..

TABLE 72.—AVERAGE RETAIL PRICES OF BREAD IN PEORIA,
BY MONTHS, 1925-1933¹
(Cents per pound)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1925-1927.....	9.83	10.03	10.03	10.03	10.03	10.03	10.03	10.03	10.03	10.03	10.03	10.03	10.03
1925.....	9.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
1926.....	10.0	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1	10.1
1927.....	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
1928.....	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
1929.....	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
1930.....	10.1	10.1	10.1	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.6	9.4	9.9
1931.....	8.7	8.6	8.4	8.2	7.8	7.6	7.6	7.6	7.5	7.4	7.3	7.2	7.8
1932.....	6.9	6.9	6.9	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.7	6.8
1933.....	6.5	6.4	6.4	6.6	6.4	6.3	7.6	7.7	7.7	7.7	7.7	...	...

¹From current reports of U. S. Bureau of Labor Statistics.

TABLE 73.—INDEXES OF AVERAGE RETAIL PRICES OF BREAD IN
PEORIA, BY MONTHS, 1925-1933
(Same month 1925-1927 = 100)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aver- age
1925.....	97	100	100	100	100	100	100	100	100	100	100	100	100
1926.....	102	101	101	101	101	101	101	101	101	101	101	101	101
1927.....	102	100	100	100	100	100	100	100	100	100	100	100	100
1928.....	102	100	100	100	100	100	100	100	100	100	100	100	100
1929.....	102	100	100	100	100	100	100	100	100	100	100	100	100
1930.....	103	101	100	100	100	100	100	100	100	100	96	94	99
1931.....	89	86	84	82	78	76	76	76	75	74	73	72	78
1932.....	70	69	69	68	68	68	68	68	68	68	68	67	68
1933.....	66	64	64	66	64	63	76	77	77	77	77	..	..

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